Catalog

MWM - J - 2011

Wall Mounted Split Systems

Models:
MWM09J/JR
MWM15J/JR
MWM20J/JR
MWM25J/JR
M5WM10J/JR
M5WM15J/JR

McQuay Air Conditioning

Engineered for flexibility and performance.™

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Nomenclature

Indoor Unit

M	5	WM	10	J	R

Brand	
M	: Mcquay

Refrigerant	
“ “	: Omitted if R22
4	: R407C
5	: R410A

Model Name	
WM	: Wall Mounted

Capacity Index	
10	: 10,000 Btu/h
15	: 15,000 Btu/h
20	: 20,000 Btu/h
25	: 25,000 Btu/h

Series	
G	: G Series
J	: J Series

Model Type	
“ “	: Omitted if cooling only
R	: Heatpump

Outdoor Unit

M	5	LC	10	C	R

Brand	
M	: Mcquay

Refrigerant	
“ “	: Omitted if R22
4	: R407C
5	: R410A

Model Name	
LC	: Single Split Condensing Unit

Capacity Index	
10	: 10,000 Btu/h
15	: 15,000 Btu/h
20	: 20,000 Btu/h
25	: 25,000 Btu/h

Series	
C	: C Series

Model Type	
“ “	: Omitted if cooling only
R	: Heatpump

Product Line-Up

Indoor Unit
MWM-J

MWM		Nomenclature	Classification																	
			Handset		PCB		Air Purification						Marking		Grille		Others	
			G17		LGSN		Saranet Filter	Bio Filter					CE		A			
COOLING ONLY	09J	ACLAA	X		X		X						X		X			
	15J	ACLAA	X		X		X						X		X			
	20J	ACLAA	X		X		X						X		X			
	25J	ACLAA	X		X		X						X		X			
HEATPUMP	09JR	ACLAA	X		X		X						X		X			
	15JR	ACLAA	X		X		X						X		X			
	20JR	ACLAA	X		X		X						X		X			
	25JR	ACLAA	X		X		X						X		X			

Indoor Unit
M5WM-J

M5WM		Nomenclature	Classification															
			PCB		Handset		Air Purification						Grille		Marking		Others	
			LGSN		G17		Saranet Filter	Bio Filter					A		CE			
COOLING ONLY																		
	10J	ACLAA	X		X		X						X		X			
	15J	ACLAA	X		X		X						X		X			
HEATPUMP																		
	10JR	ACLAA	X		X		X						X		X			
	15JR	ACLAA	X		X		X						X		X			

Outdoor Unit
MLC

MLC		Nomenclature	Classification															
			PCB		Refrigerant Control		FIN			Safety Devices			Compressor		Marking		Others	
					Cap Tube	EXV	Gold Fin	Blue Fin	Aluminium Fin	Contactor	HP	LP	Rotary		CE		Drain Elbow	Low Ambient Kit
COOLING ONLY	09C	ACPOH			X				X				X		X			
	15C	ACPOH			X				X				X		X			
	020C	ACPOD			X				X				X		X			
	025C	ACPOD			X				X				X		X			
HEATPUMP	09CR	ACPOH			X			X					X		X		X	
	15CR	ACPOJ			X			X					X		X		X	
	020CR	ACPOD			X			X					X		X		X	
	025CR	ACPOD			X			X					X		X		X	

Outdoor Unit
M5LC

M5LC		Nomenclature	Classification															
			PCB		Refrigerant Control		FIN			Safety Devices			Compressor		Marking		Others	
					Cap Tube	EXV	Gold Coated	Blue Coated	Bare	Contactor	HP	LP	Rotary		CE		Drain Elbow	Low Ambient Kit
COOLING ONLY	10CJ	ACPGG			X				X				X		X			X
		ACPOG			X				X				X		X			
	15CJ	ACPGG			X				X				X		X			X
		ACPOG			X				X				X		X			
HEATPUMP	10CRJ																	
		ACPOG			X			X					X		X			
	15CRJ	ACPOG			X			X					X		X			

Features

Air Filtration with Bio Antibody Filter and Photo-catalytic Deodorizing Titanium Apatite Filter

Bio Antibody Filter is effective against various airborne infectious viruses while Titanium Apatite Filter is able to trap microscopic particles as well as break down and decompose odors. The filter can be used for approximately 3 years without replacement if wash about once every six months.

Self Diagnosis

The microprocessor provides the possibility to detect and diagnose any fault or malfunction that occurs in the system. The error will be reflected by the blinking of the LED lights.

On / Off Button on Indoor Unit

On/Off button is provided on the front panel of the unit. It can be used when the remote controller is missing or if its battery has run out. (Note: This button can also be used for forced operation mode)

Auto Random Restart

Auto random restart function allows the unit to automatic restart as the last setting condition when the power supply is resumed after power failure. However, the compressor will restart randomly if more than one unit is installed and sharing the same phase of power.

Wireless Remote Controller

- The compact LCD transmitter is able to operate the air conditioner unit within the distance of 8 meters.
- Fan speed can be set at high / medium / low / super low or automatic.
- Sleep mode auto control will gradually increase or decrease the setting temperature to provide a comfortable surrounding for sleeping.
- Air flow direction can be controlled automatically.
- Room temperature is controlled by electronic thermostat.
- The real time timer allows the air conditioner to be switched On and Off automatically based on user settings.
- Turbo mode function is available to enables the required set temperature to be achieved in a short time.
- Personalized Setting allows user to preset and store 2 groups of personal settings (including timer setting) in the handset.

Energy Efficiency

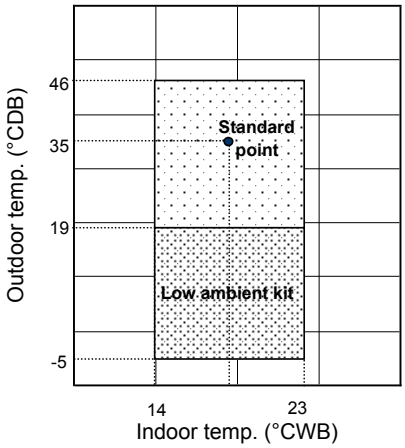
Using a more efficient compressor and superior R410A refrigerant, M5WM10JR series achieves the highest European Energy Rating of A/A. This ensures higher energy savings is accomplished especially during daily usage. M5WM-J series participates in the Eurovent Certification Programme under category of Comfort Air Conditioners rated below 12kW cooling capacity (AC1). The certified data for the certified models are listed in the Eurovent Directory.

Application Information

Operating Range

Ensure the operating temperature is in allowable range.

Cooling only

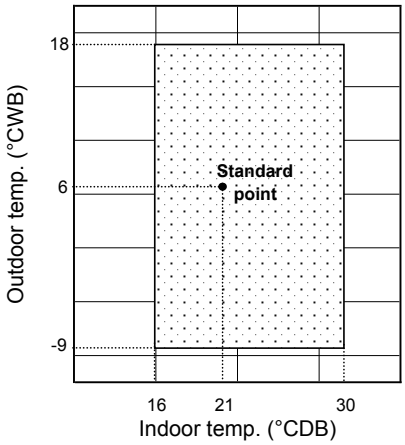


⚠ Caution :

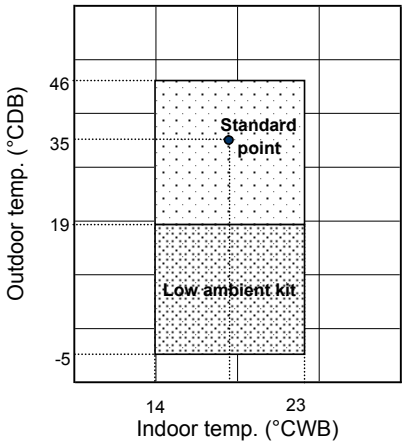
The use of your air conditioner outside the range of working temperature and humidity can result in serious failure.

Heatpump

Heating



Cooling



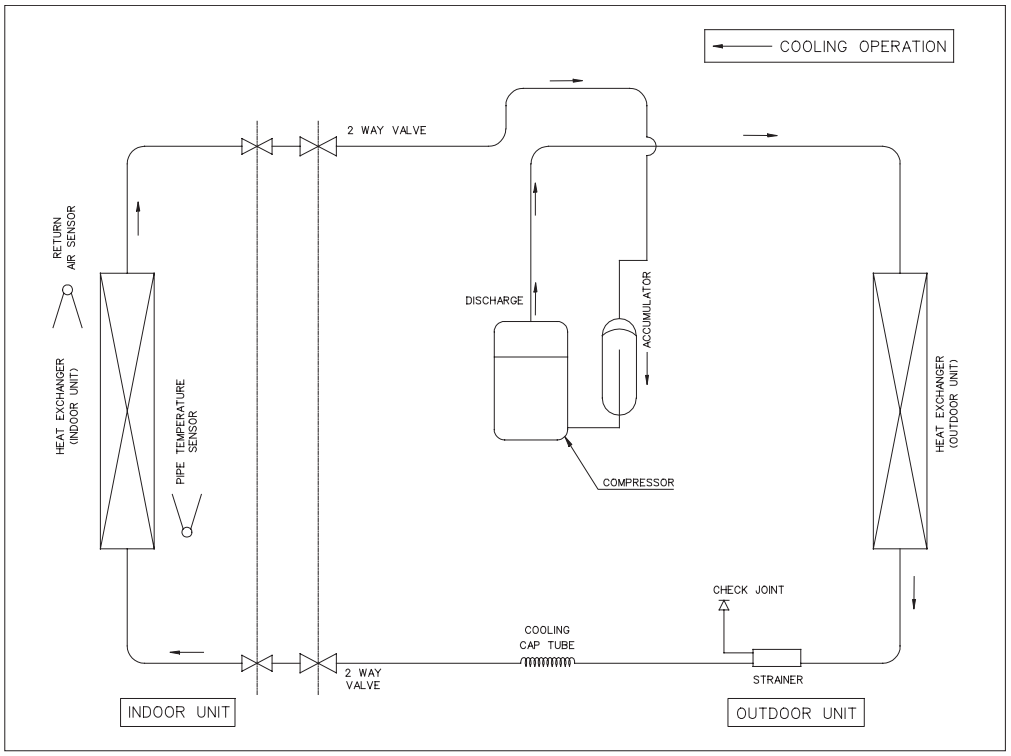
Note :

Standard operating range.

With Low ambient kit. (Optional item)
Please refer to local dealer for unit of this specification.

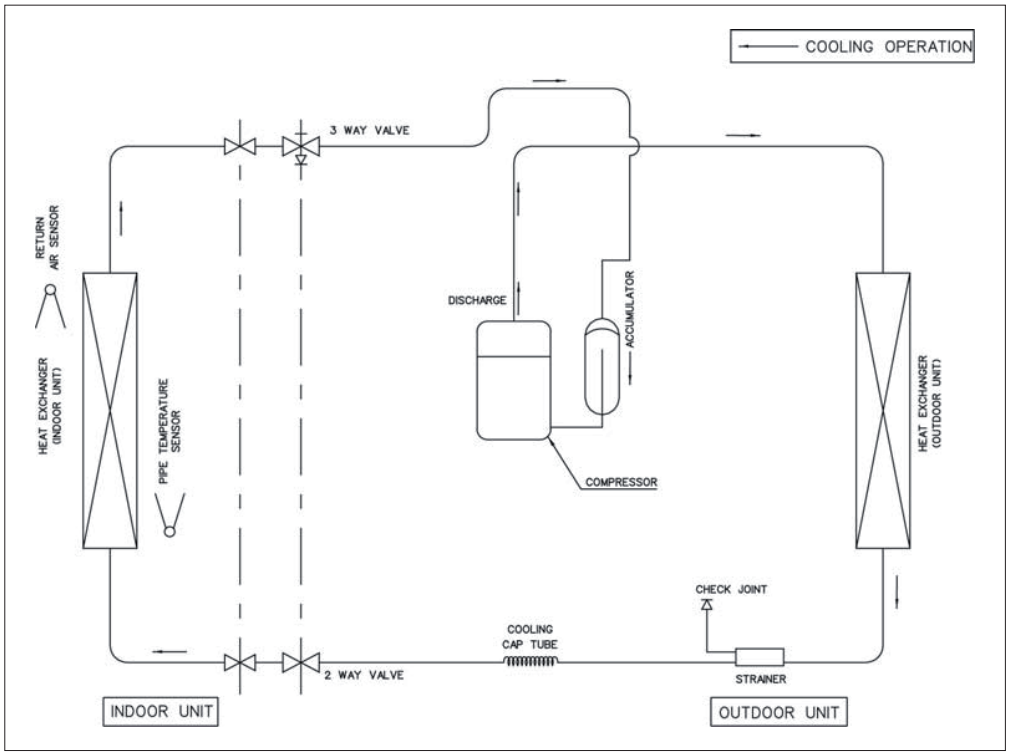
Refrigerant Circuit Diagram

Model: MWM09J - MLC09C M5WM10J - M5LC10CJ
MWM15J - MLC15C M5WM15J - M5LC15CJ

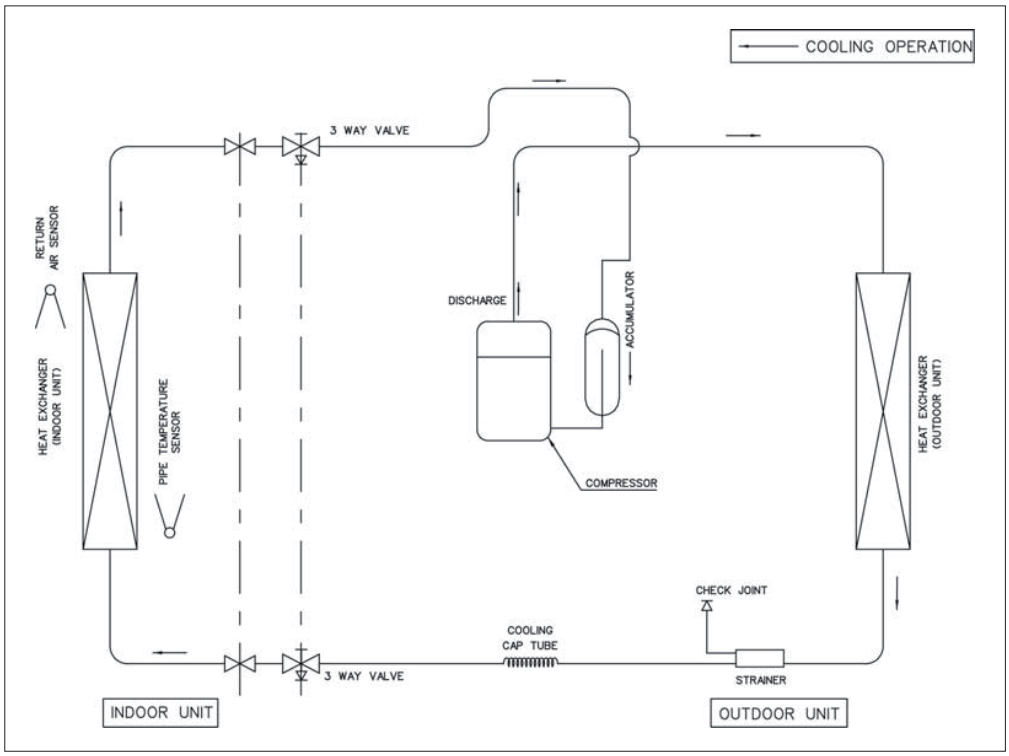


70034 049971

Model: MWM20J - MLC020C

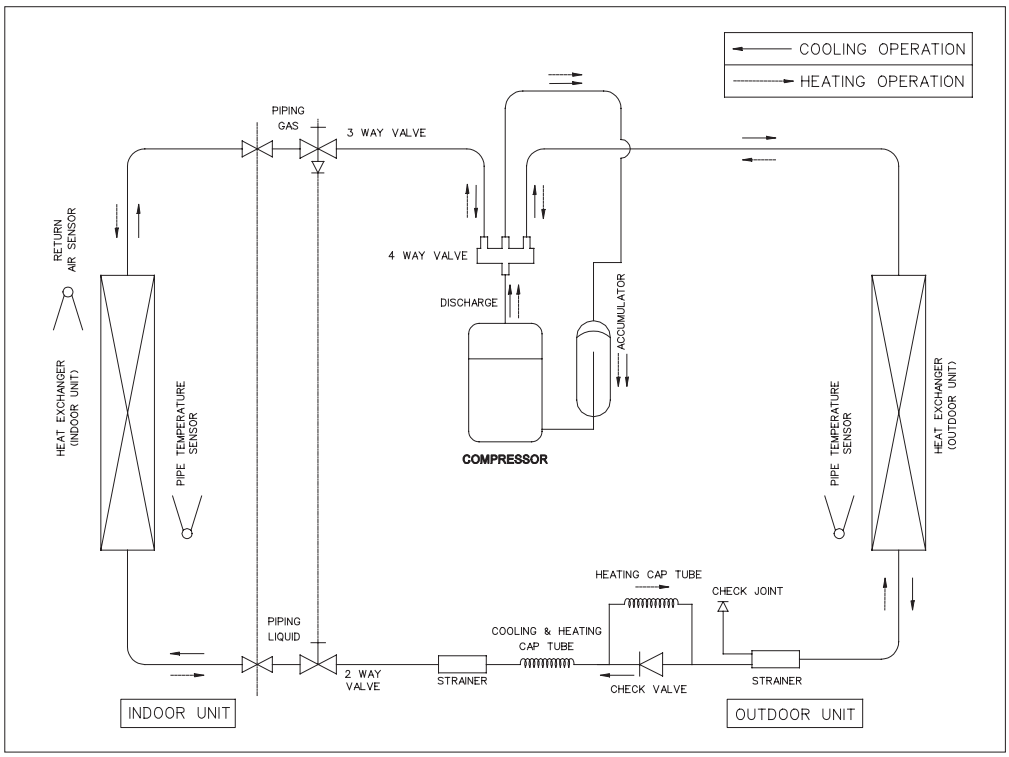


Model: MWM25J - MLC025C



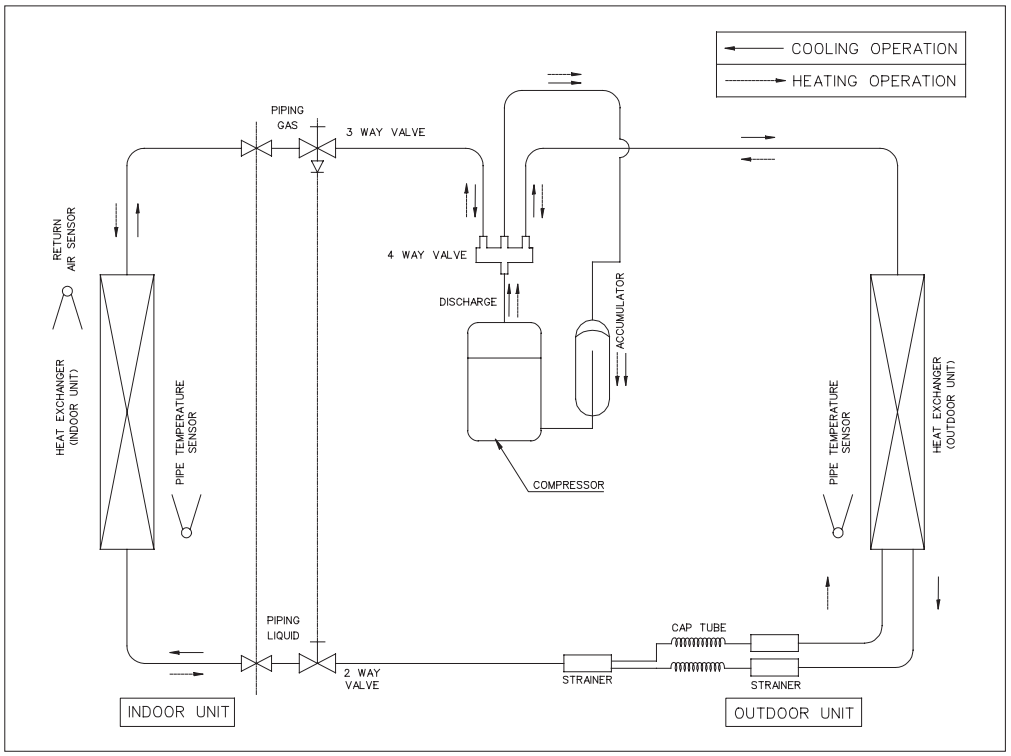
Model: MWM09JR - MLC09CR

M5WM10JR - M5LC10CRJ
M5WM15JR - M5LC15CRJ



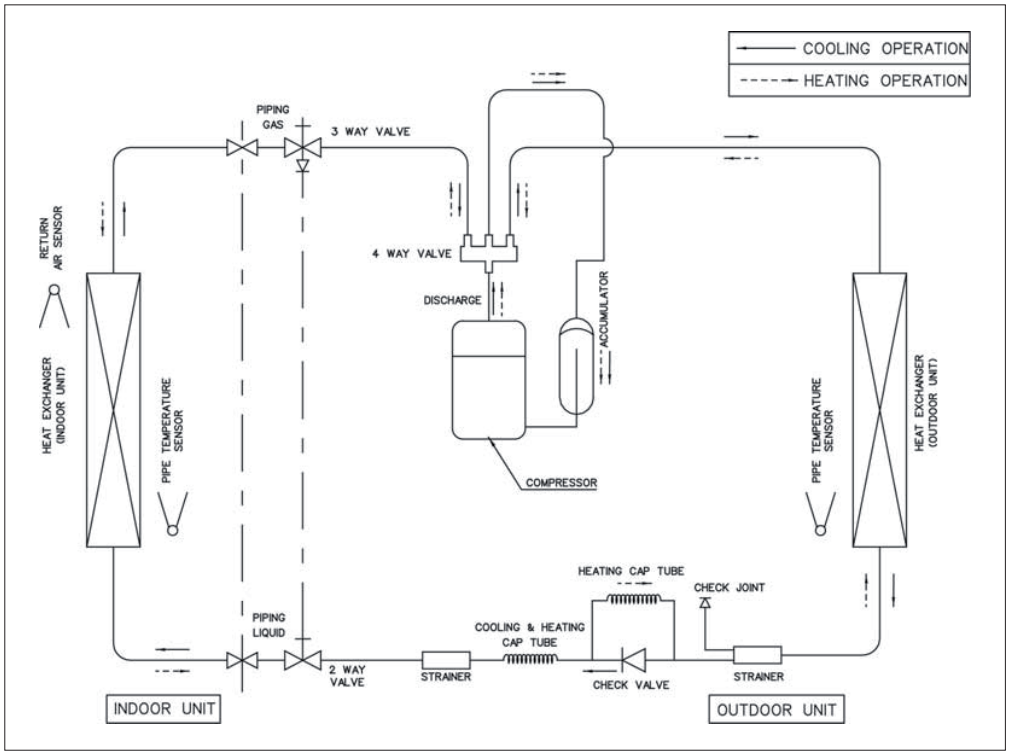
70034 023154

Model: MWM15JR - MLC15CR

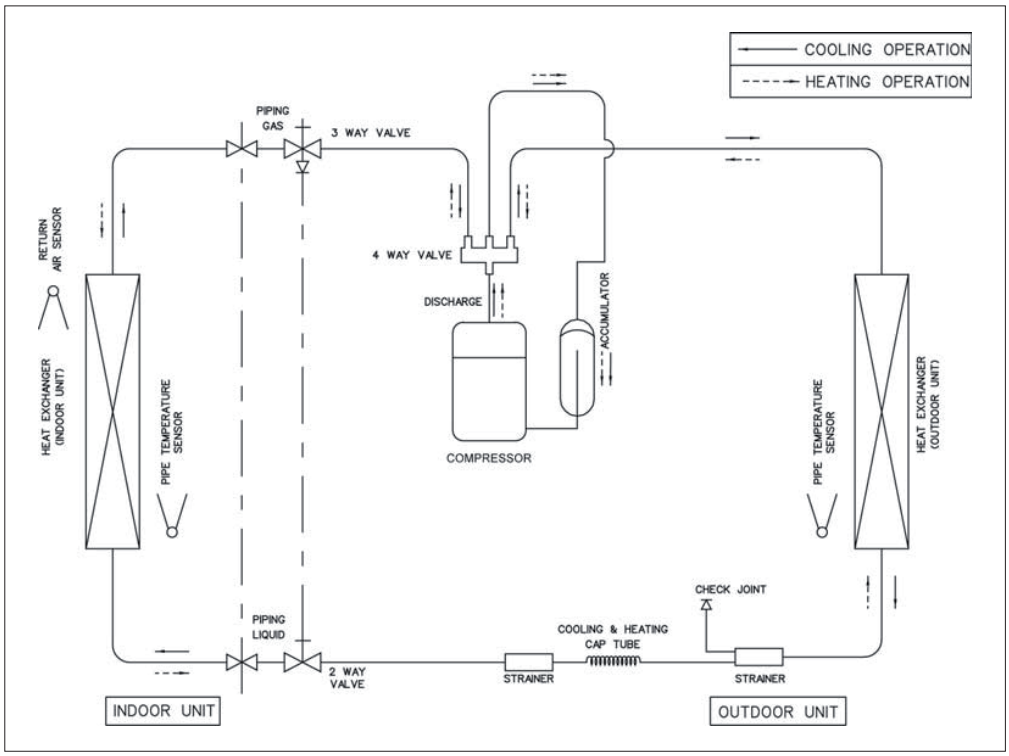


70034 095236

Model: MWM20JR - MLC020CR

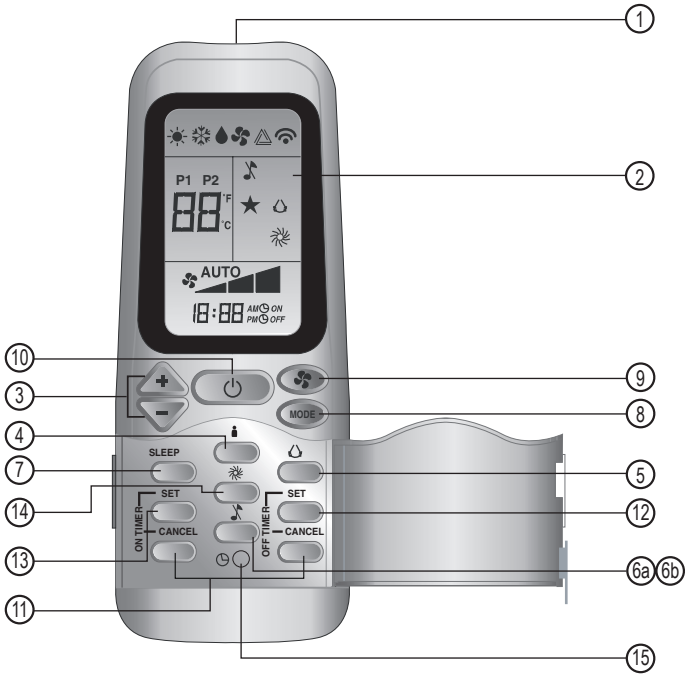


Model: MWM025JR - MLC025CR



Controller

G17



Operation Guide

1	**Transmission Source** • The source where the signal will be transmitted.
2	**Signal Transmission Indication** • Blink to confirm that the last setting has been transmitted to the unit.
3	**Temperature Setting** • To set the desired room temperature, press the ▲ or ▼ button to increase orde crease the set temperature. • The temperature setting range is from 16°C to 30°C (optional setting 20°C to 30°C).
4	**Personalize Setting** • Press and hold for 3s, then will blink. Press again to cycle between and • Set the desire setting, then leave the hand set for 4s without pressing any key and it will save the setting into the programme. • Press once to activate the P1 setting, press again to cycle between P1 and P2. • Press any key to deactivate the personalize setting.
5	**Automatic Air Swing (optional)** • Press the SWING button to activate the automatic air swing function. • To distribute the air to a specific direction, press the SWING button and wait until the louver move to the desired direction and press the button once again.
6	**Silent Function** • Press for quiet operation. • Fan speed turn to minimum speed. • Press again to deactivate the function.
7	**Sleep Mode Setting** • Press the SLEEP button will activate the sleep mode function. This function is available under COOL, HEAT and AUTO mode. • When the unit is operating under cooling mode, the set temperature is increased by 0.5°C after 30 minutes, 1°C after an hour, and 2°C after 2 hours. • When the unit is operating under heating mode, the set temperature is decreased by 1°C after 30 minutes, 2°C after an hour, and 3°C after 2 hours.
8	**Operating Mode** • Press the MODE button to select the type of operating mode. • For cooling only unit, the available modes are: COOL (❄), DRY (💧) and FAN ().
9	**Fan Speed Selection** • Press the button continuously will toggle the fan speed in the following order: Low → Med → High → Auto • Stop pressing when the desired fan speed appears on the display screen.
10	**"ON/OFF" Button** • Press one to start the air conditioner unit. • Press again to stop the unit.
11	**Timer Cancel** • Press the TIMER CANCEL button to cancel the on timer setting.
12	**OFF Timer Setting** • Press the OFF TIMER button will activate the off timer function. • Set the desired off time by pressing the OFF TIMER button continuously.
13	**ON Timer Setting** • Press the ON TIMER button will activate the on timer function. • Set the desired on time by pressing the ON TIMER button continuously. If the timer is set to 7.30am, the air conditioner will turn on at 7.30am sharp.
14	**Turbo Function** • Press for fast cooling. • Fan speed turn to maximum speed. • Press again to deactivate the function.
15	**Clock Time Setting** • Press and hold to set the clock time.

Installation Guideline

Safety Precautions

⚠ WARNING

- Installation and maintenance should be performed by qualified persons who are familiar with local code and regulation, and experienced with this type of appliance.
- All field wiring must be installed in accordance with the national wiring regulation.
- Ensure that the rated voltage of the unit corresponds to that of the name plate before commencing wiring work according to the wiring diagram.
- The unit must be GROUNDED to prevent possible hazard due to insulation failure.
- All electrical wiring must not touch the refrigerant piping or any moving parts of the fan motors.
- Confirm that the unit has been switched OFF before installing or servicing the unit.
- Disconnect from the main power supply before servicing the air conditioner unit.
- DO NOT pull out the power cord when the power is ON. This may cause serious electrical shocks which may result in fire hazards.
- Keep the indoor and outdoor units, power cable and transmission wiring, at least 1m from TVs and radios, to prevent distorted pictures and static. {Depending on the type and source of the electrical waves, static may be heard even when more than 1m away}.

⚠ CAUTION

Please take note of the following important points when installing.

- **Do not install the unit where leakage of flammable gas may occur.**

  If gas leaks and accumulates around the unit, it may cause fire ignition.
- **Ensure that drainage piping is connected properly.**

  If the drainage piping is not connected properly, it may cause water leakage which will dampen the furniture.
- **Do not overcharge the unit.**

  This unit is factory pre-charged. Overcharge will cause over-current or damage to the compressor.
- **Ensure that the unit's panel is closed after service or installation.**

  Unsecured panels will cause the unit to operate noisily.
- **Sharp edges and coil surfaces are potential locations which may cause injury hazards. Avoid from being in contact with these places.**
- **Before turning off the power supply, set the remote controller's ON/OFF switch to the "OFF" position to prevent the nuisance tripping of the unit.** If this is not done, the unit's fans will start turning automatically when power resumes, posing a hazard to service personnel or the user.
- **Do not operate any heating apparatus too close to the air conditioner unit.** This may cause the plastic panel to melt or deform as a result of the excessive heat.
- **Ensure the color of wires of the outdoor unit and the terminal markings are same to the indoors respectively.**
- **IMPORTANT : DO NOT INSTALL OR USE THE**
- **AIR CONDITIONER UNIT IN A LAUNDRY ROOM.**
- **Do not use joined and twisted wires for incoming power supply.**

NOTICE

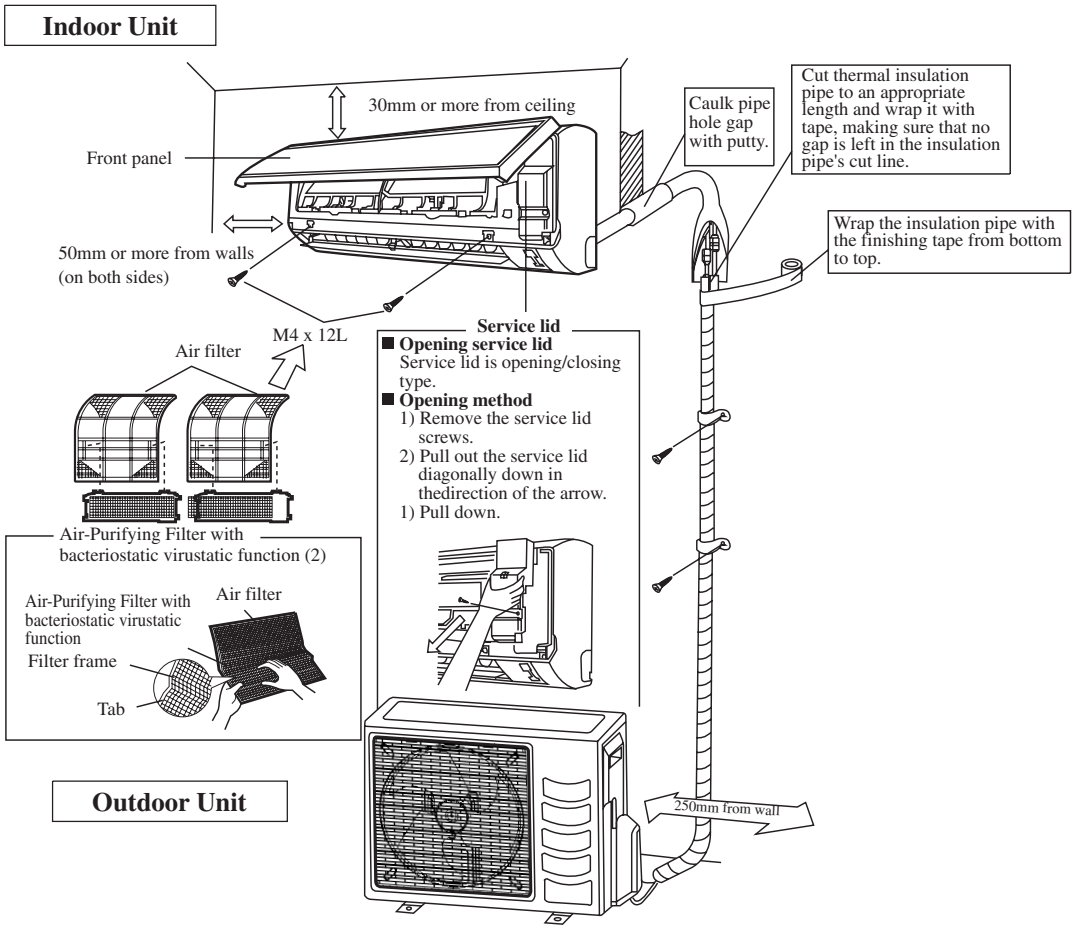
Disposal requirements

Your air conditioning product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste.

Do not try to dismantle the system yourself: the dismantling of the air conditioning system, treatment of the refrigerant, of oil and of other parts must be done by a qualified installer in accordance with relevant local and national legislation. Air conditioners must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information.

Batteries must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.

Installation Diagram


Indoor Unit
30mm or more from ceiling
Front panel
50mm or more from walls
(on both sides)
Caulk pipe hole gap with putty.
Cut thermal insulation pipe to an appropriate length and wrap it with tape, making sure that no gap is left in the insulation pipe's cut line.
Wrap the insulation pipe with the finishing tape from bottom to top.
M4 x 12L
Air filter
Service lid
■ Opening service lid
Service lid is opening/closing type.
■ Opening method
1) Remove the service lid screws.
2) Pull out the service lid diagonally down in thedirection of the arrow.
1) Pull down.
Air-Purifying Filter with bacteriostatic virustatic function (2)
Air-Purifying Filter with bacteriostatic virustatic function
Air filter
Filter frame
Tab
Outdoor Unit
250mm from wall

Caution

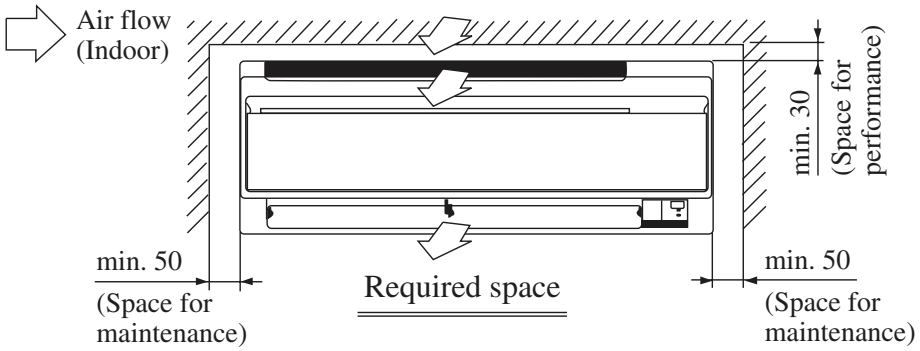
- Before installing the unit, ensure that the power supply matches the power requirement of the air conditioner.

Installation of Indoor Unit

Service Space

Install the indoor unit at a location with the following requirements

- Location is suitable for wiring, piping and drainage.
- No obstruction of air flow into and out of unit where cooler air can be evenly distributed.
- Ensure that air discharge is not short circuited with air intake.
- Ensure that wall is sufficiently strong, rigid, flat, perpendicular and vibration free.
- Where air filter cassette can be slided in or out easily.
- Where there is no danger of flammable gases.
- Where there is no direct sunlight on unit.



Routing of Piping

- The refrigerant piping can be routed to the unit in one of 5 directions, by using the cut outs in the unit casing (refer to Figure 1).

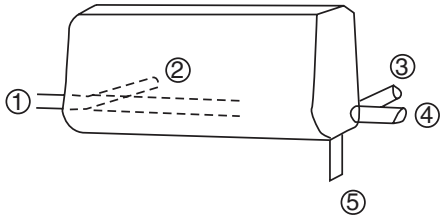


Figure 1

- Carefully bend the pipes to the required position to align with the hole. For right hand and rear side draw out, hold the bottom of the piping and fix direction before shaping it to the desired position (refer to Figure 2).

Right & Rear Side Routing

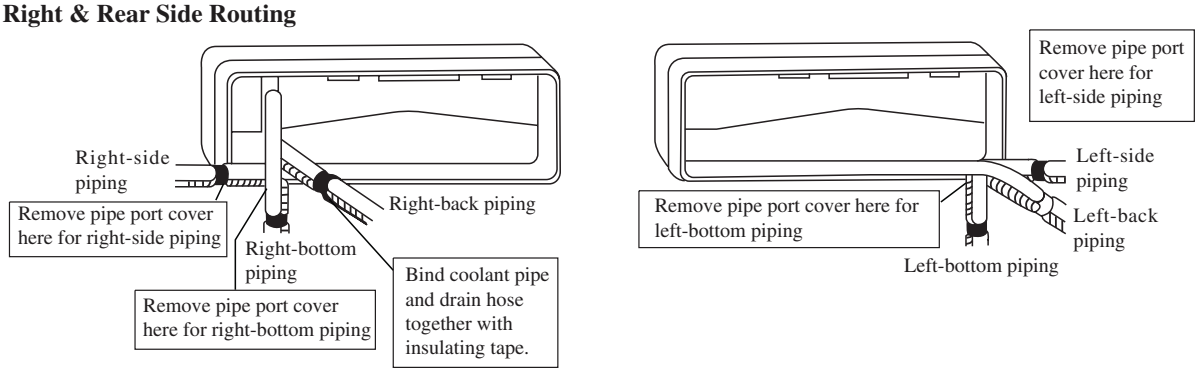
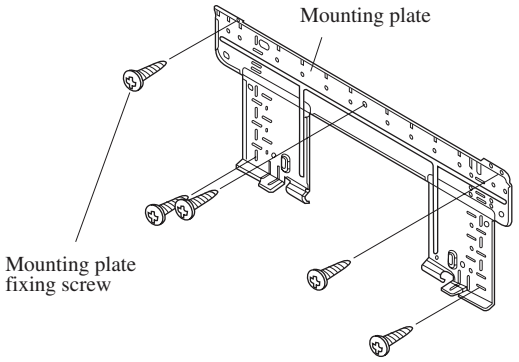

Right-side piping
Remove pipe port cover here for right-side piping
Right-bottom piping
Remove pipe port cover here for right-bottom piping
Right-back piping
Bind coolant pipe and drain hose together with insulating tape.
Remove pipe port cover here for left-side piping
Left-side piping
Left-back piping
Remove pipe port cover here for left-bottom piping
Left-bottom piping

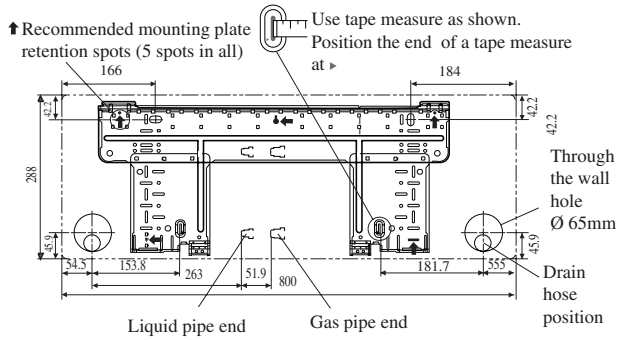
Figure 2

Mounting Installation Plate

- Paste the installation plan provided on the desired location on the wall and marks the holes location accordingly.
- Ensure the wall is strong enough to withstand the weight of the unit. Otherwise, it is necessary to reinforce the wall with plates, beams or pillars.
- Ensure the levelness of the installation plate, and fix with 5 suitable screws for M(5)WM09/10/15J/JR and 7 suitable screws for MWM20/25J/JR.

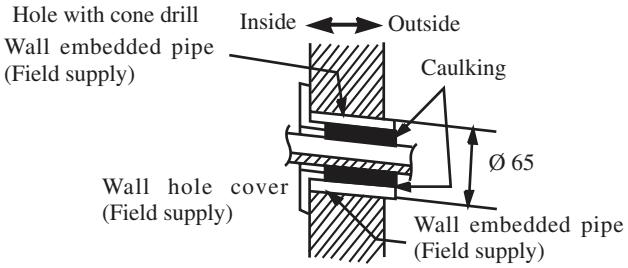


- Fix the installation plate firmly to the wall, without tilting to left or right. Use a plumb line, if available.



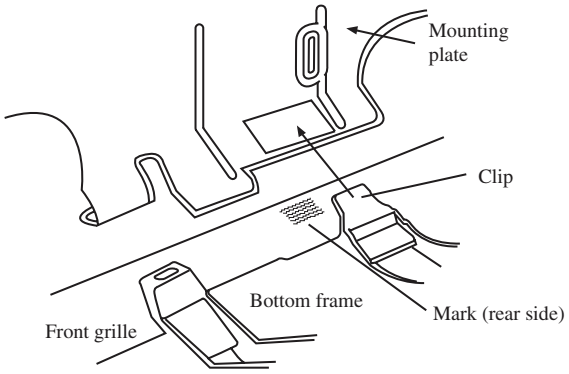
All dimensions are in mm

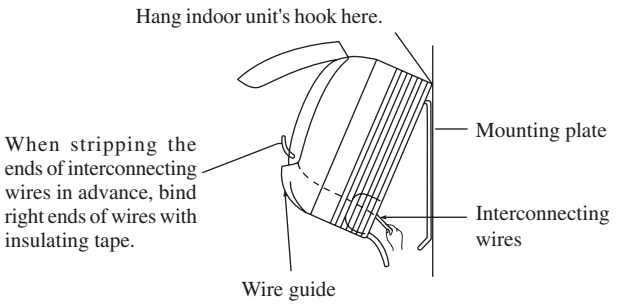
- In case of rear piping drawings out, drill a hole 65mm in diameter with a cone drill, slightly lower on the outside wall.



Mounting Unit onto the Installation Plate

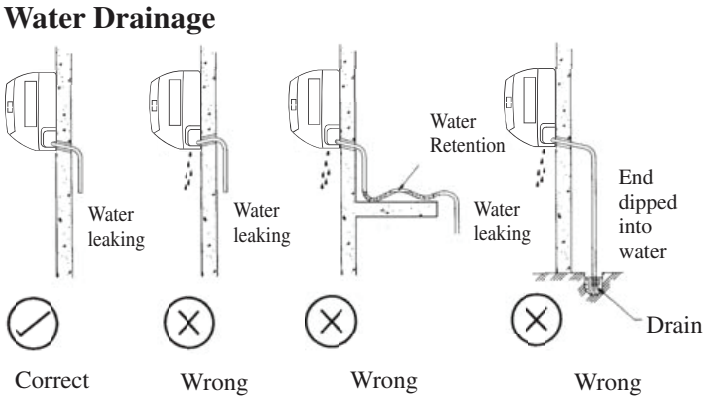
- Hook the indoor unit onto the upper portion of the installation plate (engage the two hooks at the rear top of the indoor unit with the upper edge of the installation plate). Ensure the hooks are properly seated onto the installation plate by moving it to the left and right.
- To attach the indoor unit, hook the claws of the bottom frame to the mounting plate. If the claws are difficult to hook, remove the front grille.
- To remove the indoor unit, push the marked area (at the lower part of the front grille) to release the claws. If it is difficult to release, remove the front grille.




Hang indoor unit's hook here.
When stripping the ends of interconnecting wires in advance, bind right ends of wires with insulating tape.
Mounting plate
Interconnecting wires
Wire guide

Water Drainage Piping

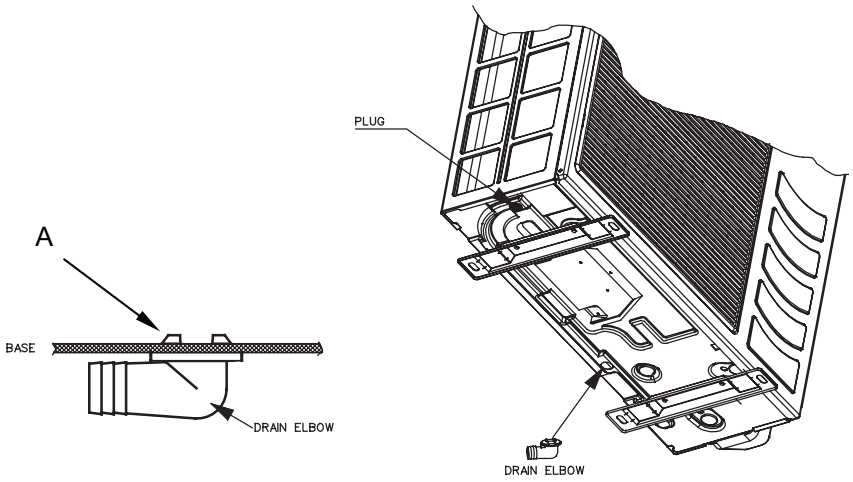
- The indoor drain pipe must be downward gradient for smooth drainage. Avoid situation as shown in figure below.

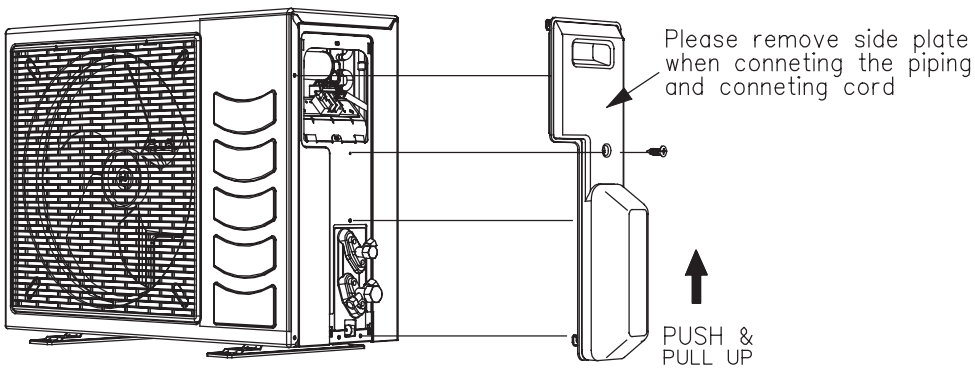


Installation of Outdoor Unit

Condensed Water Disposal of Outdoor Unit (Heat Pump Unit Only)

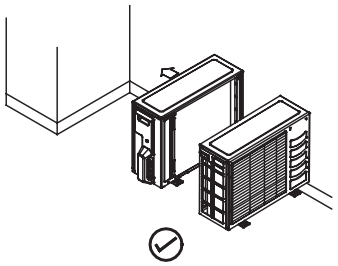
- There are 2 holes on the base of outdoor unit for condensed water to flow out. Insert the drain elbow to one of the holes.
- To install the drain elbow, first insert one portion of the hook to the base (portion A), the pull the drain elbow in the direction shown by the arrow while inserting the other portion to the base. After installation, check to ensure that the drain elbow clings to base firmly.
- If the unit is installed in a snowy and chilly area, condensed water may freeze in the base. In such case, please remove plug at the bottom of unit to smooth the drainage.

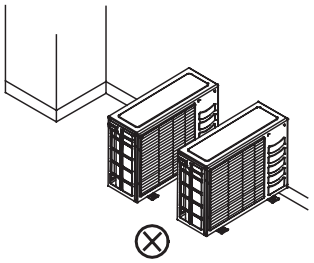




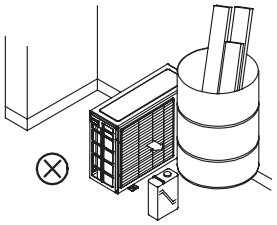
As condensing temperature rises, evaporating temperature rises and cooling capacity drops. In order to achieve maximum cooling capacity, the location selected for outdoor unit should fulfill the following requirements:

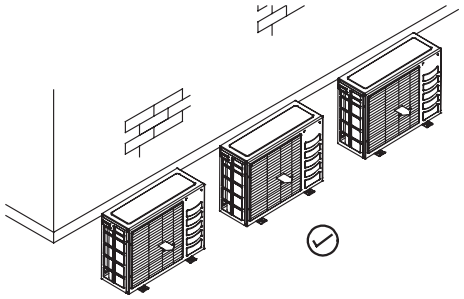
- Install the condensing (outdoor) unit in a way such that hot air distributed by the outdoor condensing unit cannot be drawn in again (as in the case of short circuit of hot discharge air). Allow sufficient space for maintenance around the unit.



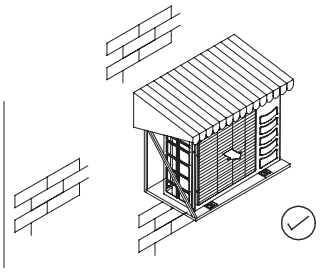


- Ensure that there is no obstruction of air flow into or out of the unit. Remove obstacles which block air intake or discharge.
- The location must be well ventilated, so that the unit can draw in and distribute plenty of air thus lowering the condensing temperature.





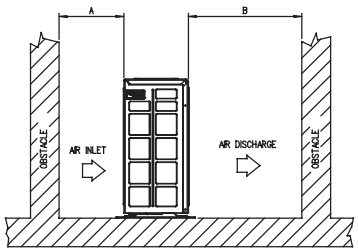
- A place capable of bearing the weight of the outdoor unit and isolating noise and vibration.
- A place protected from direct sunlight. Otherwise use an awning for protection, if necessary.

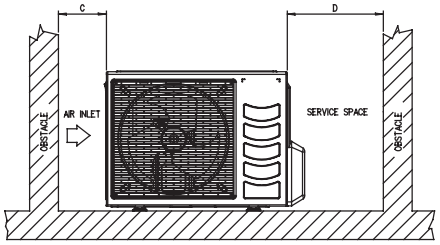


- The location must not be susceptible to dust or oil mist.

Installation Clearance

- Outdoor units must be installed such that there is no short circuit of the hot discharge air or obstruction to smooth air flow. Select the coolest possible place where intake air should not be hotter than the outside temperature (max. 45˚C).





ALL MODELS	A	B	C	D
Minimum Distance	300 mm	1000 mm	300 mm	500 mm

CAUTION : If the condensing unit is operated in an atmosphere containing oils (including machine oils), salt (coastal area), sulphide gas (near hot spring, oil refinery plant), such substances may lead to failure of the unit.

Wiring

Electrical Connections

- Wiring regulations on wire diameters differ from country to country. Please refer to your LOCAL ELECTRICAL CODES for field wiring rules. Be sure that installations comply with the rules and regulations.

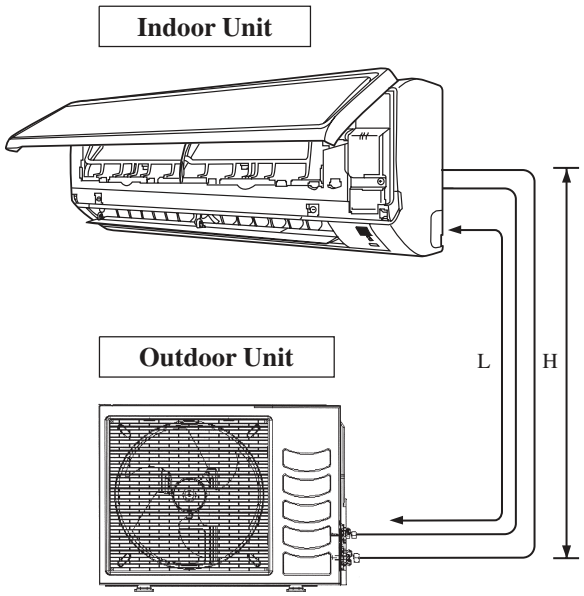
General Precautions

- Ensure that the rated voltage of the unit corresponds to the name plate before carrying out proper wiring according to the wiring diagram.
- Provide a power outlet to be used exclusively for each unit. A power supply disconnects and a circuit breaker for over-current protection should be provided in the exclusive line.
- The unit must be GROUNDED to prevent possible hazards due to insulation failures.
- All wiring must be firmly connected.
- All wiring must not touch the hot refrigerant piping, compressor or any moving parts of fan motors.

Refrigerant Piping

Piping Length and Elevation

When the pipe length becomes too long, both the capacity and reliability drop. As the number of bends increases, system piping resistance to the refrigerant flow increases, thus lowering the cooling capacity, and as the result the compressor may become defective. Always choose the shortest path and follow the recommendation as tabulated below:



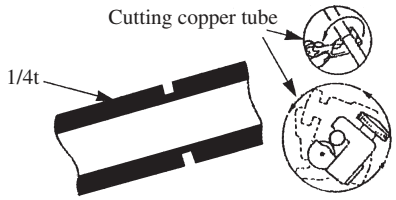
Model	Indoor	MWM09J/JR M5WM10J/JR	MWM15J/JR M5WM15J/JR	MWM20J/JR	MWM25J/JR
	Outdoor	MLC09C/CR M5LC10C/CR	MLC15C/CR M5LC15C/CR	MLC020C/CR	MLC025C/CR
Min. Allowable Length, m (L)		3	3	3	3
Max. Allowable Length, m (L)		15	15	15	15
Max. Allowable Height, m (H)		10	10	8	8
Liquid, mm/in		6.35 / 1/4	6.35 / 1/4	9.52 / 3/8	9.52 / 3/8
Suction, mm/in		9.52 / 3/8	12.70 / 1/2	15.87 / 5/8	15.87 / 5/8

* Be sure to add the proper amount of additional refrigerant. Failure to do so may result in reduced performance

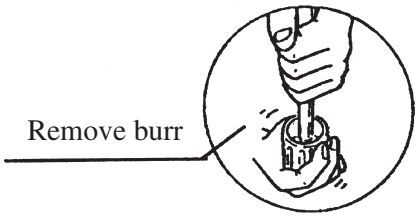
Remark: The refrigerant pre-charged in the outdoor unit is for piping length up to 7.6m/25ft.

Piping Works

- Do not use contaminated or damaged copper tubing. Do not remove plastic, rubber plugs and brass nuts from the valves, fittings, tubings and coils until you are ready to connect suction or liquid line into valves or fittings.
- If any brazing work is required, ensure that the nitrogen gas is passed through coil and joints while the brazing work is being done. This will eliminate soot formation on the inside walls of the copper tubings.
- Cut the connection pipe with a pipe cutter.

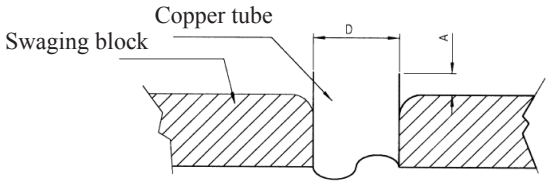


- Remove burrs from cut edges of the pipes with remover. Hold the end of the pipe downwards to prevent metal chips from entering the pipe.



- Insert the flare nuts, mounted on the connection parts of both the indoor unit and outdoor unit onto the copper pipes.
- Flare the pipe with extra length above the flaring tool as shown in the table.
- The flared edge must be even and not cracked or scratched.

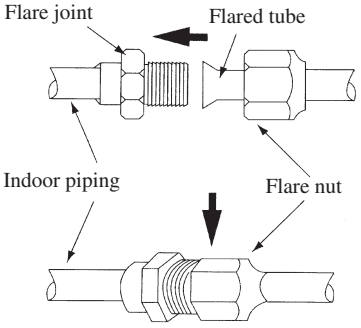
Ø Tube, D (mm / in)	A (mm)	
	Imperial Die	Rigid Die
6.35 / 1/4	1.3	0.7
9.52 / 3/8	1.6	1.0
12.70 / 1/2	1.9	1.3
15.88 / 5/8	2.2	1.7

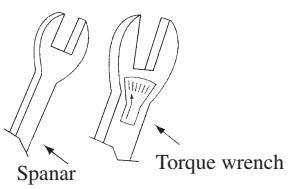


Piping Connection to the Units

- Align the center of the piping and tighten the flare nut sufficiently with fingers.
- Finally tighten the flare nut with torque wrench unit the wrench clicks.
- When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.

Pipe Size (mm/in)	Torque (Nm)
6.35 (1/4)	18
9.52 (3/8)	42
12.70 (1/2)	55
15.88 (5/8)	65

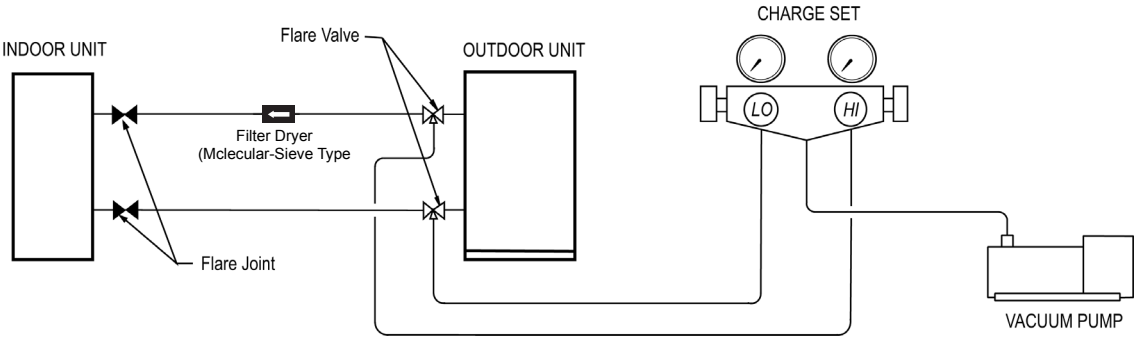




Vacuuming and Charging

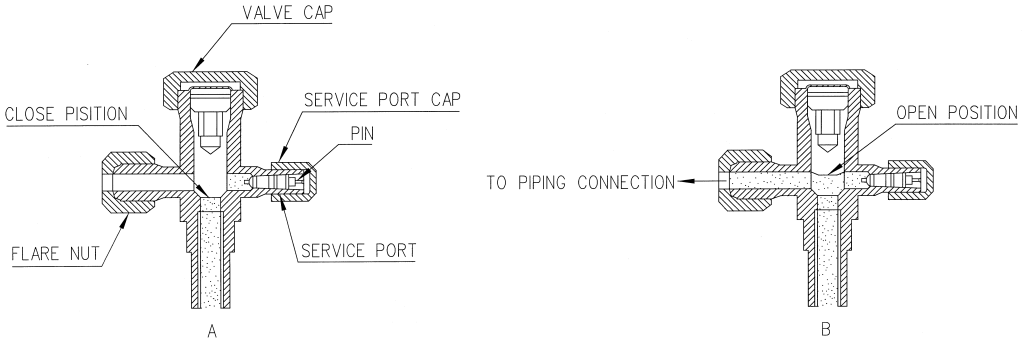
The pre-charged outdoor unit does not need any vacuuming or charging. However once it is connected, the connecting pipe line and the indoor unit need to be vacuumed before releasing the R22/R407C/R410A from the outdoor unit.

1. Open the service port core cap.
2. Connect pressure gauge to the service port.
3. Connect the line to vacuum pump. Open the charging manifold valve and turn the pump on. Vacuum to -0.1 MPa (-760mmHg) or lower. (Evacuation time varies by the pump but averagely in 1 hour).



Note : R22 - Nil
R410A - Nil

4. After evacuation, unscrew the spindle (diagram B) for the gas to run to indoor unit.



Additional Charge

- The refrigerant gas is charged in the outdoor unit and, if the piping length is 7.6m, additional charge of the refrigerant after vacuuming is not necessary.
- When the piping length is more than 7.6m, additional refrigerant charge (g) per additional 1m length as tabulated:

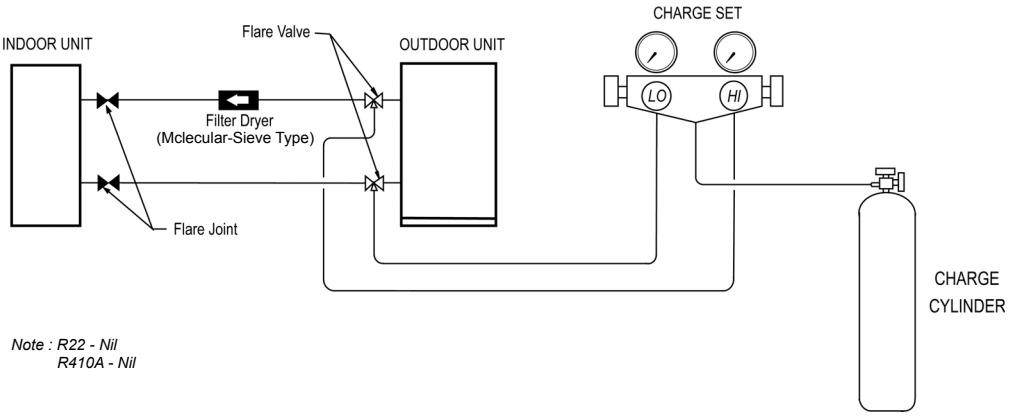
R22

Indoor	MWM09J/JR	MWM15J/JR	MWM20J	MWM25J	MWM20JR	MWM25JR
Outdoor	MLC09C/CR	MLC15C/CR	MLC020C	MLC025C	MLC020CR	MLC025CR
Additional Charge (g/m)	16	23	15	22	39	55

R410A

Indoor	M5WM10J/JR	M5WM15J/JR
Outdoor	M5LC10C/CR	M5LC15C/CR
Additional Charge (g/m)	9	6

Diagram shows typical charging method:



Caution

- For R410A, avoid prolong exposure of an opened compressor, or the internal part of refrigerant piping to moist air. The POE oil in the compressor and piping can absorb moisture from air.

Overall Checking

- Ensure the following, in particular:
  1. The unit is mounted solidly and rigid in position.
  2. Piping and connections are leak proof after charging.
  3. Proper wiring has been done.
- Drainage check – pour some water into drain pan.
- Test run
  1. Conduct a test run after water drainage test and gas leakage test.
  2. Watch out for the following:
     (a) Is the electric plug firmly inserted into the socket?
     (b) Is there any abnormal sound from the unit?
     (c) Is there any abnormal vibration with regard to the unit itself or piping?
     (d) Is there smooth drainage of water?
- Check that:
  1. Outdoor fan is running, with warm air blowing off the outdoor unit (cooling cycle).
  2. Indoor blower is running and discharge cool air (cooling cycle).
  3. Suction (low side) pressure is as per recommendations.
  4. The remote controller has incorporated a 3 minutes delay in the circuit. Thus, it requires about 3 minutes before the outdoor unit can start up.

Standard Operating Condition

Cooling only unit

Temperature	Ts °C / °F	Th °C / °F
Minimum indoor temperature	19.0 / 66.2	14.0 / 57.2
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4
Minimum outdoor temperature	19.4 / 66.9	-
Maximum outdoor temperature	46.0 / 114.8	-

Heat pump unit

Temperature	Ts °C / °F	Th °C / °F
Minimum indoor temperature	16.0 / 60.8	-
Maximum indoor temperature	30.0 / 86.0	-
Minimum outdoor temperature	-8.0 / 17.6	-9.0 / 15.8
Maximum outdoor temperature	24.0 / 75.2	18.0 / 64.4

Ts : Dry bulb temperature Th : Wet bulb temperature

Special Precautions When Dealing With Refrigerant R410A Unit

(1) What is new refrigerant R410A?
R410A is a new HFC refrigerant which does not damage the ozone layer. The working pressure of this new refrigerant is 1.6 times higher than conventional refrigerant (R22), thus proper installation / servicing is essential.

(2) Components
Mixture weight composition R32(50%) and R125(50%)

(3) Characteristic
- R410A liquid and vapor components have different compositions when the fluid evaporates or condenses. Hence, when leak occurs and only vapor leaks out, the composition of the refrigerant mixture left in the system will change and subsequently affect the system performance. DO NOT add new refrigerant to leaked system. It is recommended that the system should be evacuated thoroughly before recharging with R410A.
- When refrigerant R410A is used, the composition will differ depending on whether it is in gaseous or liquid phase. Hence when charging R410A, ensure that only liquid is being withdrawn from the cylinder or can. This is to make certain that only original composition of R410A is being charged into the system.
- POE oil is used as lubricant for R410A compressor, which is different from the mineral oil used for R22 compressor. Extra precaution must be taken not to expose the R410A system too long to moist air.

(4) Check list before installation / servicing
- Tubing
  Refrigerant R410A is more easily affected by dust of moisture compared with R22, make sure to temporarily cover the ends of the tubing prior to installation.
- Compressor oil
  No additional charge of compressor oil is permitted.
- Refrigerant
  No other refrigerant other that R410A
- Tools (size of service port is different from R22 system)
  Tools specifically for R410A only (must not be used for R22 or other refrigerant)
  i) Gauge manifold and charging hose
  ii) Gas leak detector
  iii) Refrigerant cylinder/charging cylinder
  iv) Vacuum pump c/w adapter
  v) Flare tools
  vi) Refrigerant recovery machine

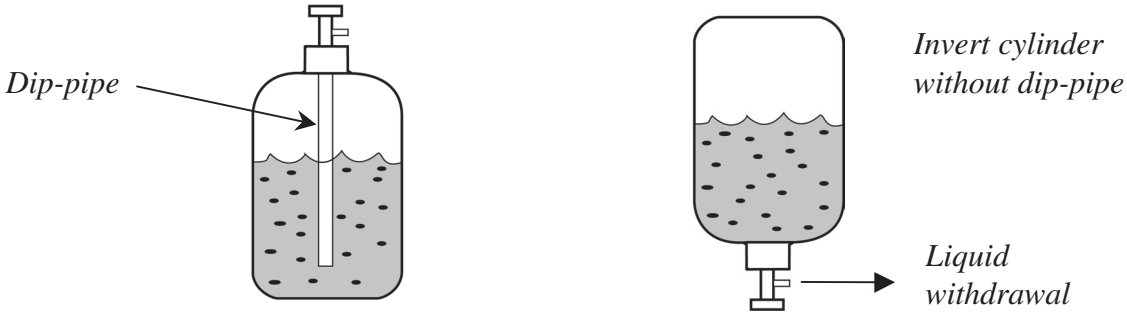
(5) Handling and installation guidelines
Like R22 system, the handling and installation of R410A system are closely similar. All precautionary measures; such as ensuring no moisture, no dirt or chips in the system, clean brazing using nitrogen, and thorough leak check and vacuuming are equally important requirements. However, due to its hydroscopic POE oil, additional precautions must be taken to ensure optimum and trouble free system operation.

(a) During installation or servicing, avoid prolong exposure of the internal part of the refrigerant system to moist air. Residual POE oil in the piping and components can absorb moisture from the air.

(b) Ensure that the compressor is not exposed to open air for more than the recommended time specified by its manufacturer (typically less than 10 minutes). Removed the seal plugs only when the compressor is about to be brazed.

(c) The system should be thoroughly vacuumed to 1.0 Pa (700mmHg) or lower. This vacuuming level is more stringent than R22 system so as to ensure no incompressible gas and moisture in the system.

(d) When charging R410A, ensure that only liquid is being withdrawn from the cylinder or can. This is to ensure that only the original composition of R410A is being delivered into the system. The liquid composition can be different from the vapor composition.



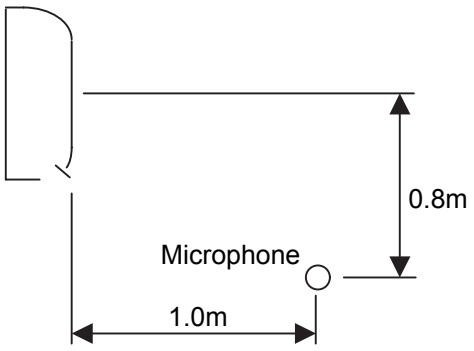
(e) Normally, the R410A cylinder or can is being equipped with a dip pipe for liquid withdrawal. However, if the dip pipe is not available, invert the cylinder or can so as to withdraw liquid from the valve at the bottom.

Sound Data

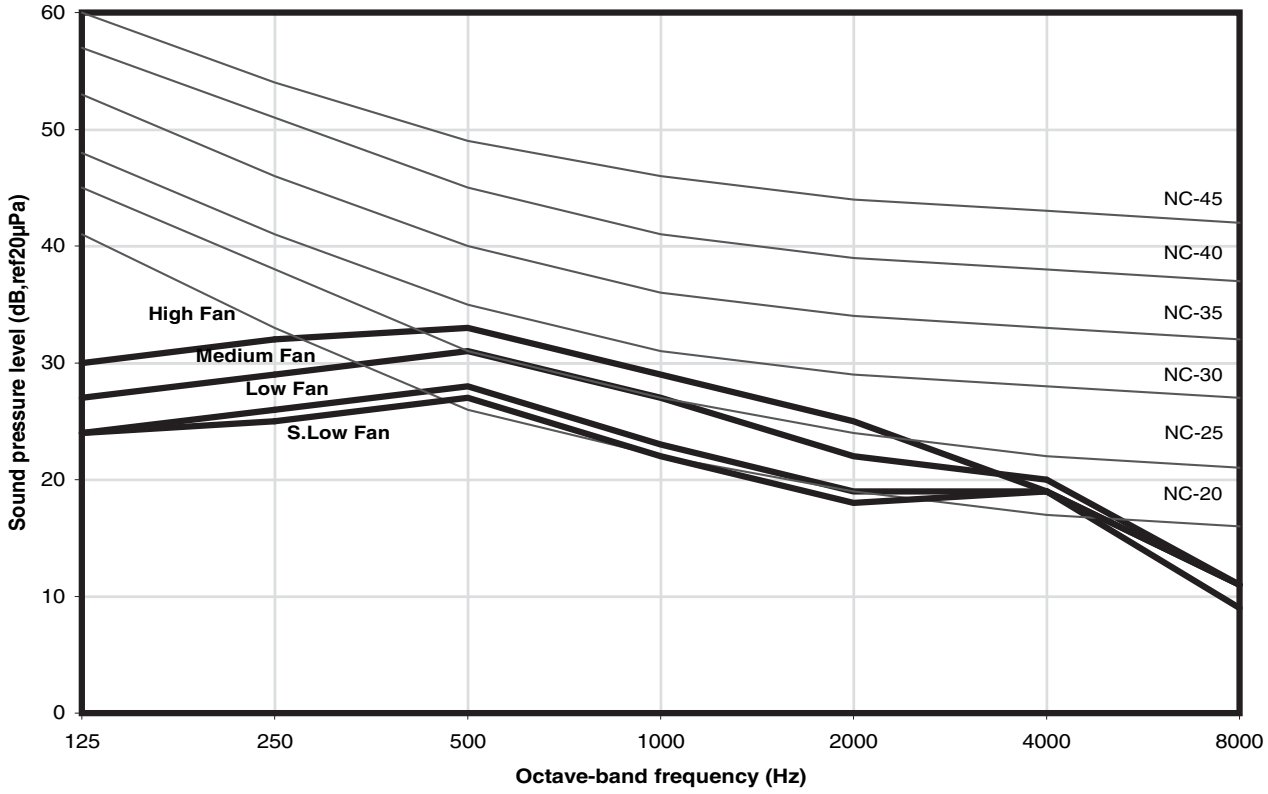
Sound Pressure Level

Model	Speed	1/1 Octave Sound Pressure Level (dB, ref 20μPa)							Overall (dBA)	Noise Criteria
	(RPM)	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz		
MWM09J/JR	High	30	32	33	29	25	19	9	34	28
	Medium	27	29	31	27	22	20	11	32	25
	Low	24	26	28	23	19	19	11	29	22
	S. Low	24	25	27	22	18	19	11	28	22
M5WM10J/JR	High	31	35	36	34	30	22	9	38	33
	Medium	26	30	31	27	22	13	5	32	25
	Low	24	26	27	22	15	7	7	27	21
	S. Low	23	24	25	20	13	6	5	25	-
MWM15J/JR M5WM15J/JR	High	32	35	36	34	31	22	11	38	33
	Medium	30	32	33	29	25	16	10	34	28
	Low	29	28	28	24	19	11	10	29	22
	S. Low	28	26	27	22	17	9	9	27	21
MWM20J/JR	High	21	31	36	38	36	27	15	42	37
	Medium	17	28	34	35	32	23	13	39	34
	Low	14	26	31	32	29	20	12	36	32
	S. Low	12	25	31	31	27	20	13	35	30
MWM25J/JR	High	40	42	42	42	39	32	20	46	43
	Medium	37	39	39	39	36	27	19	43	39
	Low	34	37	37	36	32	24	18	40	37
	S. Low	31	35	35	33	29	22	18	37	33

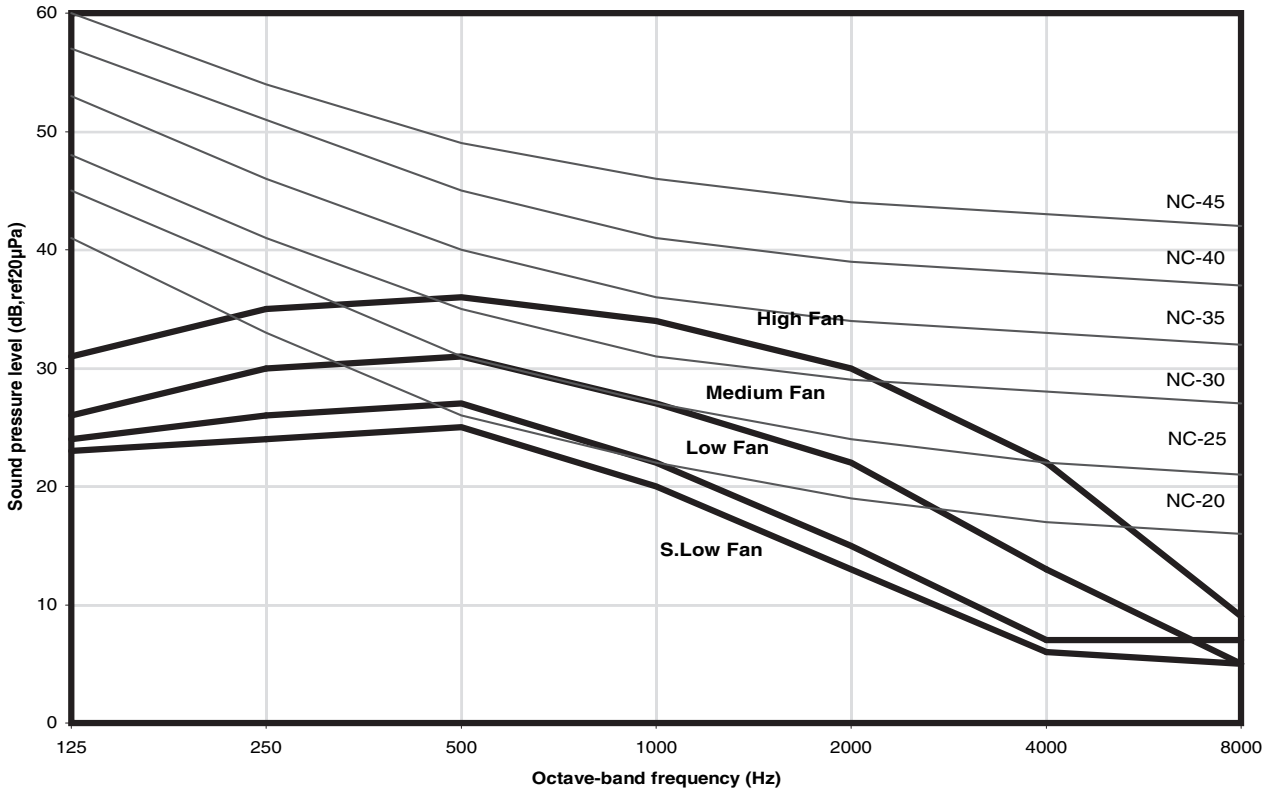
Microphone position: 1m in front and 0.8m below the vertical centre line of the unit. (JIS C 9612)

Model	Measuring location
MWM09J/JR MWM15J/JR M5WM10J/JR M5WM15J/JR MWM20J/JR MWM25J/JR	 Standard : JIS C 9612

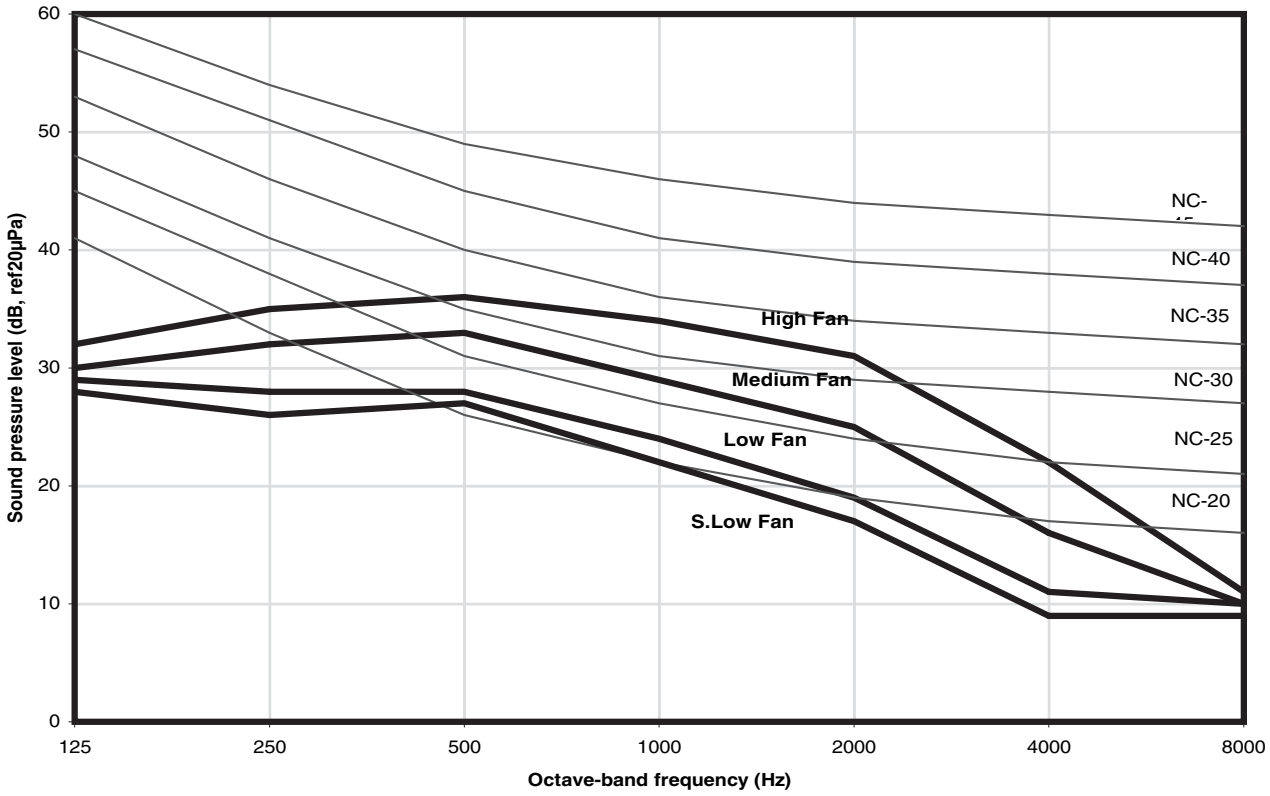
MWM09J/JR
NC CURVES



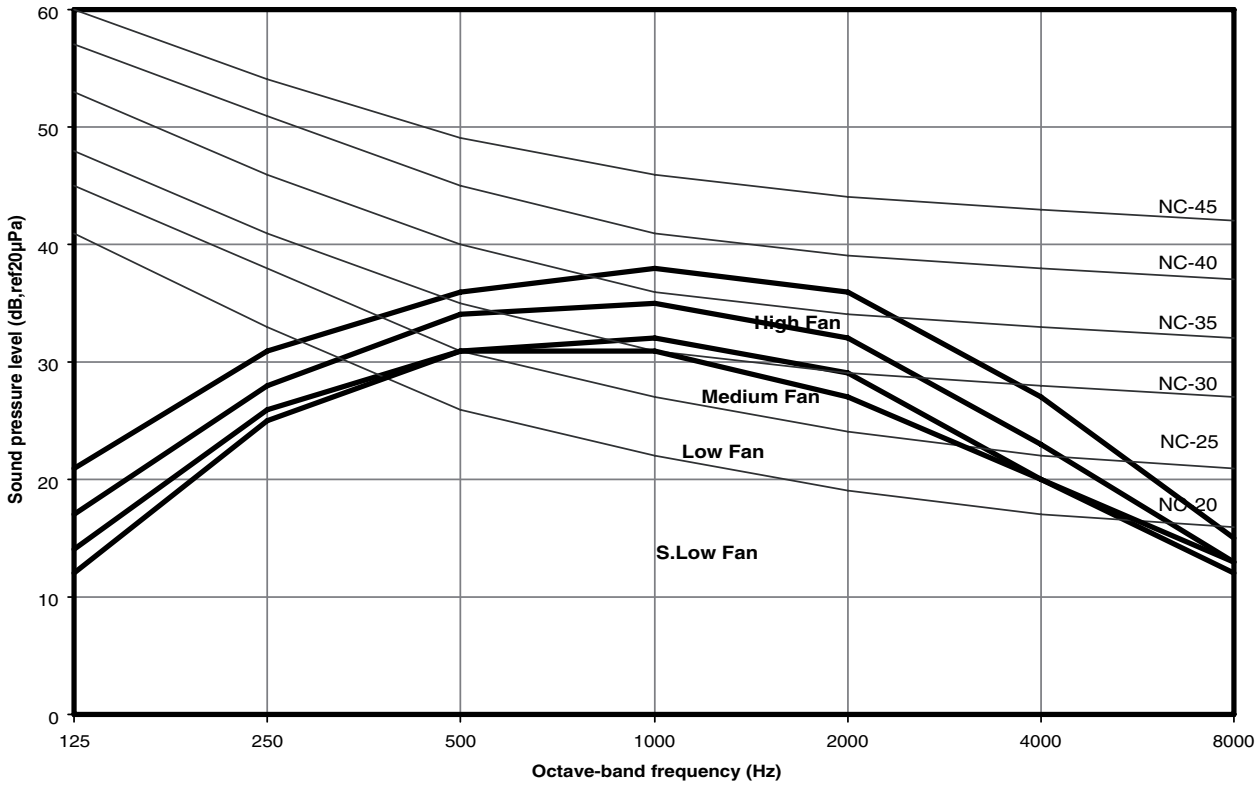
M5WM10J/JR
NC CURVES



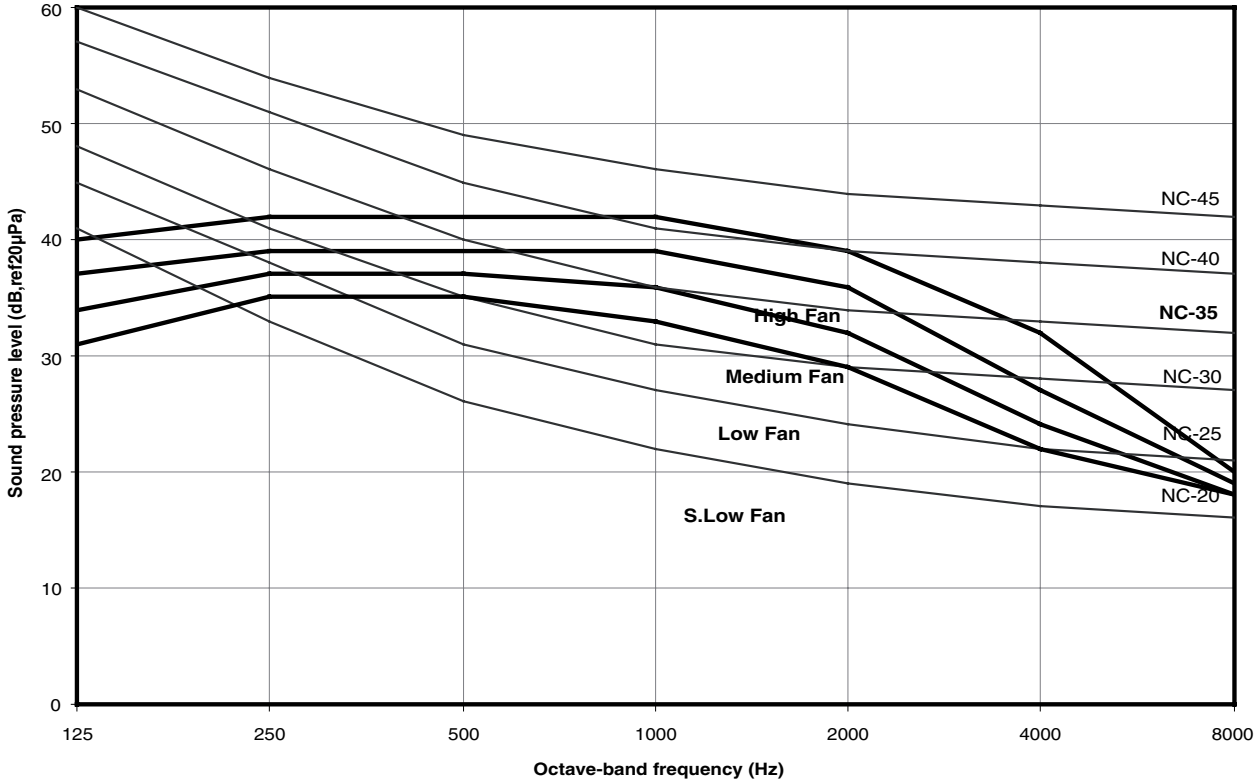
MWM15J/JR, M5WM15J/JR
NC CURVES



M5WM20J/JR
NC CURVES



MWM25J/JR
NC CURVES



Engineering & Physical Data

General Data - Cooling Only (R22)

MODEL		INDOOR UNIT			MWM09J	MWM15J
		OUTDOOR UNIT			MLC09C	MLC15C
NOMINAL CAPACITY				Btu/h	8400	12000
				W	2460	3520
NOMINAL TOTAL INPUT POWER				W	925	1176
NOMINAL RUNNING CURRENT				A	4.10	5.40
POWER SOURCE				V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
EER				W/W	3.11	3.20
REFRIGERANT TYPE					R22	R22
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE	OUTDOOR CAP. TUBE
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)	AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
		OPERATION			LCD REMOTE CONTROL	LCD REMOTE CONTROL
	AIR FLOW	HIGH		l/s / CFM	145 / 309	163 / 346
		MEDIUM		l/s / CFM	125 / 265	138 / 293
		LOW		l/s / CFM	105 / 223	113 / 240
	SOUND PRESSURE LEVEL (H/M/L)			dBA	34 / 32 / 29	38 / 34 / 29
	UNIT DIMENSION	HEIGHT		mm/in	288 / 11.3	288 / 11.3
		WIDTH		mm/in	800 / 31.5	800 / 31.5
		DEPTH		mm/in	204 / 8.0	204 / 8.0
	PACKING DIMENSION	HEIGHT		mm/in	350 / 13.8	350 / 13.8
		WIDTH		mm/in	874 / 34.4	874 / 34.4
		DEPTH		mm/in	280 / 11.0	280 / 11.0
	UNIT WEIGHT			kg/lb	12 / 26.5	12 / 26.5
	CONDENSATE DRAIN SIZE			mm/in	16 / 0.6	16 / 0.6
OUTDOOR UNIT	AIR FLOW			l/s / CFM	349 / 740	457 / 969
	SOUND PRESSURE LEVEL			dBA	45	49
	UNIT DIMENSION	HEIGHT		mm/in	475 / 18.7	540 / 21.3
		WIDTH		mm/in	600 / 23.6	700 / 27.6
		DEPTH		mm/in	245 / 9.6	250 / 9.8
	PACKING DIMENSION	HEIGHT		mm/in	535 / 21.1	620 / 24.4
		WIDTH		mm/in	712 / 28.0	810 / 31.9
		DEPTH		mm/in	320 / 12.6	330 / 13.0
	UNIT WEIGHT			kg/lb	33 / 72.6	34 / 75.0
	PIPE CONNECTION	TYPE			FLARE VALVE	FLARE VALVE
		SIZE	LIQUID	mm/in	6.4 / 1/4	6.4 / 1/4
			GAS	mm/in	9.5 / 3/8	12.7 / 1/2
REFRIGERANT CHARGE				kg/lb	0.65 / 1.43	0.75 / 1.65

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Cooling Only (R22)

MODEL		INDOOR UNIT			MWM20J	MWM25J
		OUTDOOR UNIT			MLC020C	MLC025C
NOMINAL CAPACITY				Btu/h	19500	24000
				W	5720	7030
NOMINAL TOTAL INPUT POWER				W	1850	2530
NOMINAL RUNNING CURRENT				A	8.21	11.30
POWER SOURCE				V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
EER				W/W	3.29	3.22
REFRIGERANT TYPE					R22	R22
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE	OUTDOOR CAP. TUBE
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)	AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
		OPERATION			LCD REMOTE CONTROL	LCD REMOTE CONTROL
	AIR FLOW	HIGH		l/s / CFM	252 / 536	290 / 616
		MEDIUM		l/s / CFM	225 / 478	253 / 537
		LOW		l/s / CFM	200 / 424	223 / 474
	SOUND PRESSURE LEVEL (H/M/L)			dBA	42 / 39 / 36	43 / 39 / 37
	UNIT DIMENSION	HEIGHT		mm/in	310 / 12.2	310 / 12.2
		WIDTH		mm/in	1065 / 41.9	1065 / 41.9
		DEPTH		mm/in	224 / 8.8	224 / 8.8
	PACKING DIMENSION	HEIGHT		mm/in	370 / 14.6	370 / 14.6
		WIDTH		mm/in	1121 / 44.1	1121 / 44.1
		DEPTH		mm/in	285 / 11.2	285 / 11.2
	UNIT WEIGHT			kg/lb	14 / 30.8	14 / 30.8
	CONDENSATE DRAIN SIZE			mm/in	19.05 / 0.75	19.05 / 0.75
OUTDOOR UNIT	AIR FLOW			l/s / CFM	614 / 1300	755 / 1600
	SOUND PRESSURE LEVEL			dBA	51	52
	UNIT DIMENSION	HEIGHT		mm/in	654 / 25.7	756 / 29.8
		WIDTH		mm/in	855 / 33.7	855 / 33.7
		DEPTH		mm/in	328 / 12.9	328 / 12.9
	PACKING DIMENSION	HEIGHT		mm/in	710 / 28.0	810 / 31.9
		WIDTH		mm/in	990 / 39.0	990 / 39.0
		DEPTH		mm/in	415 / 16.3	415 / 16.3
	UNIT WEIGHT			kg/lb	57 / 125.4	60 / 132.0
	PIPE CONNECTION	TYPE			FLARE VALVE	FLARE VALVE
		SIZE	LIQUID	mm/in	9.52 / 3/8	9.52 / 3/8
			GAS	mm/in	15.87 / 5/8	15.87 / 5/8
REFRIGERANT CHARGE				kg/lb	1.63 / 3.59	1.72 / 3.78

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Heat pump (R22)

MODEL					MWM09JR	MWM15JR
		INDOOR UNIT			MWM09JR	MWM15JR
		OUTDOOR UNIT			MLC09CR	MLC15CR
NOMINAL COOLING CAPACITY				Btu/h	8400	11800
				W	2460	3460
NOMINAL HEATING CAPACITY				Btu/h	9000	13000
				W	2640	3810
NOMINAL TOTAL INPUT POWER (COOLING)				W	925	1192
NOMINAL TOTAL INPUT POWER (HEATING)				W	750	1064
NOMINAL RUNNING CURRENT (COOLING)				A	4.10	5.50
NOMINAL RUNNING CURRENT (HEATING)				A	3.40	4.90
POWER SOURCE				V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
EER				W/W	3.11	3.20
COP				W/W	3.55	3.61
REFRIGERANT TYPE					R22	R22
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE	OUTDOOR CAP. TUBE
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)	AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
		OPERATION			LCD REMOTE CONTROL	LCD REMOTE CONTROL
	AIR FLOW	HIGH		l/s / CFM	145 / 309	163 / 346
		MEDIUM		l/s / CFM	125 / 265	138 / 293
		LOW		l/s / CFM	105 / 223	113 / 240
	SOUND PRESSURE LEVEL (H/M/L)			dBA	34 / 32 / 29	38 / 32 / 27
	UNIT DIMENSION	HEIGHT		mm/in	288 / 11.3	288 / 11.3
		WIDTH		mm/in	800 / 31.5	800 / 31.5
		DEPTH		mm/in	204 / 8.0	204 / 8.0
	PACKING DIMENSION	HEIGHT		mm/in	350 / 13.8	350 / 13.8
		WIDTH		mm/in	874 / 34.4	874 / 34.4
		DEPTH		mm/in	280 / 11.0	280 / 11.0
	UNIT WEIGHT			kg/lb	12 / 26.5	12 / 26.5
	CONDENSATE DRAIN SIZE			mm/in	16 / 0.6	16 / 0.6
OUTDOOR UNIT	AIR FLOW			l/s / CFM	349 / 740	457 / 969
	SOUND PRESSURE LEVEL			dBA	45	49
	UNIT DIMENSION	HEIGHT		mm/in	475 / 18.7	540 / 21.3
		WIDTH		mm/in	600 / 23.6	700 / 27.6
		DEPTH		mm/in	245 / 9.6	250 / 9.8
	PACKING DIMENSION	HEIGHT		mm/in	535 / 21.1	620 / 24.4
		WIDTH		mm/in	712 / 28.0	810 / 31.9
		DEPTH		mm/in	320 / 12.6	330 / 13.0
	UNIT WEIGHT			kg/lb	33 / 72.6	34 / 75.0
	PIPE CONNECTION	TYPE			FLARE VALVE	FLARE VALVE
		SIZE	LIQUID	mm/in	6.4 / 1/4	6.4 / 1/4
			GAS	mm/in	9.5 / 3/8	12.7 / 1/2
REFRIGERANT CHARGE				kg/lb	0.65 / 1.43	0.93/2.04

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Heat pump (R22)

MODEL		INDOOR UNIT			MWM20JR	MWM25JR
		OUTDOOR UNIT			MLC020CR	MLC025CR
NOMINAL COOLING CAPACITY				Btu/h	19500	24000
				W	5720	7030
NOMINAL HEATING CAPACITY				Btu/h	19500	25000
				W	5720	7330
NOMINAL TOTAL INPUT POWER (COOLING)				W	1850	2530
NOMINAL TOTAL INPUT POWER (HEATING)				W	1750	2465
NOMINAL RUNNING CURRENT (COOLING)				A	8.21	11.30
NOMINAL RUNNING CURRENT (HEATING)				A	7.73	11.01
POWER SOURCE				V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
EER				W/W	3.29	3.21
COP				W/W	3.67	3.62
REFRIGERANT TYPE					R22	R22
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE	OUTDOOR CAP. TUBE
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)	AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
		OPERATION			LCD REMOTE CONTROL	LCD REMOTE CONTROL
	AIR FLOW	HIGH		l/s / CFM	252 / 536	290 / 616
		MEDIUM		l/s / CFM	225 / 478	253 / 537
		LOW		l/s / CFM	200 / 424	223 / 474
	SOUND PRESSURE LEVEL (H/M/L)			dBA	42 / 39 / 36	43 / 39 / 37
	UNIT DIMENSION	HEIGHT		mm/in	310 / 12.2	310 / 12.2
		WIDTH		mm/in	1065 / 41.9	1065 / 41.9
		DEPTH		mm/in	224 / 8.8	224 / 8.8
	PACKING DIMENSION	HEIGHT		mm/in	370 / 14.6	370 / 14.6
		WIDTH		mm/in	1121 / 44.1	1121 / 44.1
		DEPTH		mm/in	285 / 11.2	285 / 11.2
	UNIT WEIGHT			kg/lb	14 / 30.8	14 / 30.8
	CONDENSATE DRAIN SIZE			mm/in	19.05 / 0.75	19.05 / 0.75
OUTDOOR UNIT	AIR FLOW			l/s / CFM	614 / 1300	755 / 1600
	SOUND PRESSURE LEVEL			dBA	51	52
	UNIT DIMENSION	HEIGHT		mm/in	654 / 25.7	756 / 29.8
		WIDTH		mm/in	855 / 33.7	855 / 33.7
		DEPTH		mm/in	328 / 12.9	328 / 12.9
	PACKING DIMENSION	HEIGHT		mm/in	710 / 28.0	810 / 31.9
		WIDTH		mm/in	990 / 39.0	990 / 39.0
		DEPTH		mm/in	415 / 16.3	415 / 16.3
	UNIT WEIGHT			kg/lb	57 / 125.4	60 / 132.0
	PIPE CONNECTION	TYPE			FLARE VALVE	FLARE VALVE
		SIZE	LIQUID	mm/in	9.52 / 3/8	9.52 / 3/8
			GAS	mm/in	15.87 / 5/8	15.87 / 5/8
REFRIGERANT CHARGE				kg/lb	1.63 / 3.59	1.72 / 3.78

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Cooling Only (R410A)

MODEL					INDOOR UNIT		M5WM10J	M5WM15J
					OUTDOOR UNIT		M5LC10C	M5LC15C
NOMINAL CAPACITY						Btu/h	9040	10750
						W	2650	3150
NOMINAL TOTAL INPUT POWER						W	825	1094
NOMINAL RUNNING CURRENT						A	3.70	5.10
POWER SOURCE						V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
EER						W/W	3.30	3.32
REFRIGERANT TYPE							R410A	R410A
REFRIGERANT CONTROL (EXPANSION DEVICE)							OUTDOOR CAP. TUBE	OUTDOOR CAP. TUBE
INDOOR UNIT	CONTROL	AIR DISCHARGE					AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)	AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
		OPERATION					LCD REMOTE CONTROL	LCD REMOTE CONTROL
	AIR FLOW	HIGH				l/s / CFM	158 / 335	163 / 346
		MEDIUM				l/s / CFM	132 / 279	138 / 293
		LOW				l/s / CFM	105 / 222	113 / 240
	SOUND PRESSURE LEVEL (H/M/L)					dBA	38 / 32 / 27	38 / 34 / 29
	UNIT DIMENSION		HEIGHT			mm/in	288 / 11.3	288 / 11.3
			WIDTH			mm/in	800 / 31.5	800 / 31.5
			DEPTH			mm/in	204 / 8.0	204 / 8.0
	PACKING DIMENSION		HEIGHT			mm/in	350 / 13.8	350 / 13.8
			WIDTH			mm/in	874 / 34.4	874 / 34.4
			DEPTH			mm/in	280 / 11.0	280 / 11.0
	UNIT WEIGHT					kg/lb	12 / 26.5	12 / 26.5
	CONDENSATE DRAIN SIZE					mm/in	16 / 0.6	16 / 0.6
OUTDOOR UNIT	AIR FLOW					l/s / CFM	396 / 840	457 / 969
	SOUND PRESSURE LEVEL					dBA	46	49
	UNIT DIMENSION		HEIGHT			mm/in	540 / 21.3	540 / 21.3
			WIDTH			mm/in	700 / 27.6	700 / 27.6
			DEPTH			mm/in	250 / 9.8	250 / 9.8
	PACKING DIMENSION		HEIGHT			mm/in	620 / 24.4	620 / 24.4
			WIDTH			mm/in	810 / 31.9	810 / 31.9
			DEPTH			mm/in	330 / 13.0	330 / 13.0
	UNIT WEIGHT					kg/lb	34 / 75.0	34 / 75.0
	PIPE CONNECTION		TYPE				FLARE VALVE	FLARE VALVE
			SIZE	LIQUID		mm/in	6.4 / 1/4	6.4 / 1/4
				GAS		mm/in	9.5 / 3/8	12.7 / 1/2
REFRIGERANT CHARGE						kg/lb	0.80 / 1.76	0.89/1.96

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Heat pump (R410A)

MODEL					INDOOR UNIT		M5WM10JR	M5WM15JR
					OUTDOOR UNIT		M5LC10CR	M5LC15CR
NOMINAL COOLING CAPACITY						Btu/h	9040	10750
						W	2650	3150
NOMINAL HEATING CAPACITY						Btu/h	9550	11530
						W	2800	3380
NOMINAL TOTAL INPUT POWER (COOLING)						W	825	1094
NOMINAL TOTAL INPUT POWER (HEATING)						W	775	988
NOMINAL RUNNING CURRENT (COOLING)						A	3.70	5.10
NOMINAL RUNNING CURRENT (HEATING)						A	3.20	4.70
POWER SOURCE						V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
EER						W/W	3.33	3.35
COP						W/W	3.71	3.72
REFRIGERANT TYPE							R410A	R410A
REFRIGERANT CONTROL (EXPANSION DEVICE)							OUTDOOR CAP. TUBE	OUTDOOR CAP. TUBE
INDOOR UNIT	CONTROL	AIR DISCHARGE					AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)	AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
		OPERATION					LCD REMOTE CONTROL	LCD REMOTE CONTROL
	AIR FLOW	HIGH				l/s / CFM	158 / 335	163 / 346
		MEDIUM				l/s / CFM	132 / 279	138 / 293
		LOW				l/s / CFM	105 / 222	113 / 240
	SOUND PRESSURE LEVEL (H/M/L)					dBA	38 / 32 / 27	38 / 34 / 29
	UNIT DIMENSION	HEIGHT				mm/in	288 / 11.3	288 / 11.3
		WIDTH				mm/in	800 / 31.5	800 / 31.5
		DEPTH				mm/in	204 / 8.0	204 / 8.0
	PACKING DIMENSION	HEIGHT				mm/in	350 / 13.8	350 / 13.8
		WIDTH				mm/in	874 / 34.4	874 / 34.4
		DEPTH				mm/in	280 / 11.0	280 / 11.0
	UNIT WEIGHT					kg/lb	12 / 26.5	12 / 26.5
	CONDENSATE DRAIN SIZE					mm/in	16 / 0.6	16 / 0.6
OUTDOOR UNIT	AIR FLOW					l/s / CFM	396 / 840	457 / 969
	SOUND PRESSURE LEVEL					dBA	46	49
	UNIT DIMENSION	HEIGHT				mm/in	540 / 21.3	540 / 21.3
		WIDTH				mm/in	700 / 27.6	700 / 27.6
		DEPTH				mm/in	250 / 9.8	250 / 9.8
	PACKING DIMENSION	HEIGHT				mm/in	620 / 24.4	620 / 24.4
		WIDTH				mm/in	810 / 31.9	810 / 31.9
		DEPTH				mm/in	330 / 13.0	330 / 13.0
	UNIT WEIGHT					kg/lb	34 / 75.0	34 / 75.0
	PIPE CONNECTION	TYPE					FLARE VALVE	FLARE VALVE
		SIZE	LIQUID			mm/in	6.4 / 1/4	6.4 / 1/4
			GAS			mm/in	9.5 / 3/8	12.7 / 1/2
REFRIGERANT CHARGE						kg/lb	0.80 / 1.76	0.89 / 1.96

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

Component Data - Cooling Only (R22)

MODEL	INDOOR UNIT			MWM09J	MWM15J
	OUTDOOR UNIT			MLC09C	MLC15C
INDOOR FAN	TYPE			CROSS FLOW FAN	CROSS FLOW FAN
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	92 / 3.6	92 / 3.6
	LENGTH		mm/in	607 / 23.9	607 / 23.9
INDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP44	IP44
OUTDOOR FAN	TYPE			PROPELLER	PROPELLER
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	356 / 14	406 / 16
OUTDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP24	IP24
COMPRESSOR	TYPE			ROTARY	ROTARY
	OIL TYPE			RB68A or FREOL ALPHA68M	RB68A or FREOL ALPHA68M
	OIL AMOUNT		cm^3 / fl.oz.	350 / 12.3	430 / 15.1
INDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS	mm/in	0.28 / 0.011	0.28 / 0.011
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC FIN)	ALUMINIUM (HYDROPHILIC FIN)
		THICKNESS	mm/in	0.11 / 0.004	0.11 / 0.004
		FACE AREA	m^2/ft^2	0.18 / 1.930	0.18 / 1.930
		ROW		2	2
		FIN PER INCH		18	18
OUTDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS	mm/in	0.24 / 0.009	0.24 / 0.009
	FIN	MATERIAL		ALUMINIUM (RAISE LANCE)	ALUMINIUM (RAISE LANCE)
		THICKNESS	mm/in	0.10 / 0.004	0.10 / 0.004
		FACE AREA	m^2/ft^2	0.31 / 3.400	0.36 / 3.940
		ROW		1	1
		FIN PER INCH		18	20
AIR QUALITY	FILTER	TYPE		MILDEW PROOF PP FILTER	MILDEW PROOF PP FILTER
		QUANTITY	pc	2	2
		SIZE LENGTH	mm/in	302 / 11.9	302 / 11.9
		SIZE WIDTH	mm/in	280 / 11.0	280 / 11.0
		SIZE THICKNESS	mm/in	2.0 / 0.1	2.0 / 0.1
CASING	INDOOR UNIT		MATERIAL	HIGH IMPACT POLYSTYRENE	HIGH IMPACT POLYSTYRENE
			FINISHING	MAT	MAT
			COLOUR	WHITE	WHITE
	OUTDOOR UNIT		MATERIAL	GALVANISED MILD STEEL	GALVANISED MILD STEEL
			FINISHING	POLYESTER POWDER	POLYESTER POWDER
			COLOUR	LIGHT GREY	LIGHT GREY

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Component Data - Cooling Only (R22)

MODEL	INDOOR UNIT			MWM20J	MWM25J
	OUTDOOR UNIT			MLC020C	MLC025C
INDOOR FAN	TYPE			CROSS FLOW FAN	CROSS FLOW FAN
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	102 / 4.02	102 / 4.02
	LENGTH		mm/in	867 / 34.13	867 / 34.13
INDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP44	IP44
OUTDOOR FAN	TYPE			PROPELLER	PROPELLER
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	457.2 / 18	457.2 / 18
OUTDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP54	IP54
COMPRESSOR	TYPE			ROTARY HERMETIC	ROTARY HERMETIC
	OIL TYPE			ATMOS NM56M or SUNISO 4GDID	ATMOS NM56M or SUNISO 4GDID
	OIL AMOUNT		cm^3 / fl.oz.	1000 / 35.2	700 / 24.6
INDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS	mm/in	0.24 / 0.009	0.28 / 0.011
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC FIN)	ALUMINIUM (HYDROPHILIC FIN)
		THICKNESS	mm/in	0.105 / 0.0041	0.11 / 0.004
		FACE AREA	m^2/ft^2	0.29 / 3.100	0.18 / 1.930
		ROW		2	2
		FIN PER INCH		18	18
OUTDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS	mm/in	0.28 / 0.011	0.28 / 0.011
	FIN	MATERIAL		ALUMINIUM (RAISE LANCE)	ALUMINIUM (RAISE LANCE)
		THICKNESS	mm/in	0.11 / 0.0043	0.127 / 0.005
		FACE AREA	m^2/ft^2	0.52 / 5.59	0.61 / 6.52
		ROW		2	2
		FIN PER INCH		18	18
AIR QUALITY	FILTER	TYPE		SARANET	SARANET
		QUANTITY	pc	2	2
		SIZE LENGTH	mm/in	421 / 16.57	421 / 16.57
		SIZE WIDTH	mm/in	306 / 12.05	306 / 12.05
		SIZE THICKNESS	mm/in	2 / 0.08	2 / 0.08
CASING	INDOOR UNIT		MATERIAL	HIGH IMPACT POLYSTYRENE	HIGH IMPACT POLYSTYRENE
			FINISHING	MAT	MAT
			COLOUR	WHITE	WHITE
	OUTDOOR UNIT		MATERIAL	GALVANISED MILD STEEL	GALVANISED MILD STEEL
			FINISHING	POLYESTER POWDER	POLYESTER POWDER
			COLOUR	LIGHT GREY	LIGHT GREY

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Component Data - Heat Pump (R22)

MODEL	INDOOR UNIT			MWM09JR	MWM15JR
	OUTDOOR UNIT			MLC09CR	MLC15CR
INDOOR FAN	TYPE			CROSS FLOW FAN	CROSS FLOW FAN
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	92 / 3.6	92 / 3.6
	LENGTH		mm/in	607 / 23.9	607 / 23.9
INDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP44	IP44
OUTDOOR FAN	TYPE			PROPELLER	PROPELLER
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	356 / 14	406 / 16
OUTDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP24	IP24
COMPRESSOR	TYPE			ROTARY	ROTARY
	OIL TYPE			RB68A or FREOL ALPHA68M	RB68A or FREOL ALPHA68M
	OIL AMOUNT		cm^3 / fl.oz.	350 / 12.3	430 / 15.1
INDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS	mm/in	0.28 / 0.011	0.28 / 0.011
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC FIN)	ALUMINIUM (HYDROPHILIC FIN)
		THICKNESS	mm/in	0.11 / 0.004	0.11 / 0.004
		FACE AREA	m^2/ft^2	0.18 / 1.930	0.18 / 1.930
		ROW		2	2
		FIN PER INCH		18	18
OUTDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	9.52 / 3/8
		THICKNESS	mm/in	0.24 / 0.009	0.28 / 0.011
	FIN	MATERIAL		ALUMINIUM (RAISE LANCE)	ALUMINIUM (HYDROPHILIC FIN)
		THICKNESS	mm/in	0.10 / 0.004	0.11 / 0.004
		FACE AREA	m^2/ft^2	0.31 / 3.400	0.36 / 3.940
		ROW		1	1
		FIN PER INCH		18	18
AIR QUALITY	FILTER	TYPE		MILDEW PROOF PP FILTER	MILDEW PROOF PP FILTER
		QUANTITY	pc	2	2
		SIZE LENGTH	mm/in	302 / 11.9	302 / 11.9
		SIZE WIDTH	mm/in	280 / 11.0	280 / 11.0
		SIZE THICKNESS	mm/in	2.0 / 0.1	2.0 / 0.1
CASING	INDOOR UNIT		MATERIAL	HIGH IMPACT POLYSTYRENE	HIGH IMPACT POLYSTYRENE
			FINISHING	MAT	MAT
			COLOUR	WHITE	WHITE
	OUTDOOR UNIT		MATERIAL	GALVANISED MILD STEEL	GALVANISED MILD STEEL
			FINISHING	POLYESTER POWDER	POLYESTER POWDER
			COLOUR	LIGHT GREY	LIGHT GREY

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Component Data - Heat Pump (R22)

MODEL	INDOOR UNIT				MWM20JR	MWM25JR
	OUTDOOR UNIT				MLC020CR	MLC025CR
INDOOR FAN	TYPE				CROSS FLOW FAN	CROSS FLOW FAN
	QUANTITY				1	1
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE				DIRECT	DIRECT
	DIAMETER			mm/in	102 / 4.02	102 / 4.02
	LENGTH			mm/in	867 / 34.13	867 / 34.13
INDOOR FAN MOTOR	TYPE				INDUCTION	INDUCTION
	QUANTITY				1	1
	INDEX OF PROTECTION (IP)				IP44	IP44
OUTDOOR FAN	TYPE				PROPELLER	PROPELLER
	QUANTITY				1	1
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE				DIRECT	DIRECT
	DIAMETER			mm/in	457.2 / 18	457.2 / 18
OUTDOOR FAN MOTOR	TYPE				INDUCTION	INDUCTION
	QUANTITY				1	1
	INDEX OF PROTECTION (IP)				IP54	IP54
COMPRESSOR	TYPE				ROTARY HERMETIC	ROTARY HERMETIC
	OIL TYPE				ATMOS NM56M or SUNISO 4GDID	ATMOS NM56M or SUNISO 4GDID
	OIL AMOUNT			cm³ / fl.oz.	1000 / 35.2	700 / 24.6
INDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER		mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS		mm/in	0.24 / 0.009	0.28 / 0.011
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC FIN)	ALUMINIUM (HYDROPHILIC FIN)
		THICKNESS		mm/in	0.105 / 0.0041	0.11 / 0.004
		FACE AREA		m²/ft²	0.29 / 3.100	0.18 / 1.930
		ROW			2	2
		FIN PER INCH			18	18
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER		mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS		mm/in	0.28 / 0.011	0.28 / 0.011
	FIN	MATERIAL			ALUMINIUM (RAISE LANCE)	ALUMINIUM (RAISE LANCE)
		THICKNESS		mm/in	0.11 / 0.0043	0.11 / 0.0043
		FACE AREA		m²/ft²	0.52 / 5.59	0.61 / 6.52
		ROW			2	2
		FIN PER INCH			18	18
AIR QUALITY	FILTER	TYPE			SARANET	SARANET
		QUANTITY		pc	2	2
		SIZE	LENGTH	mm/in	421 / 16.57	421 / 16.57
			WIDTH	mm/in	306 / 12.05	306 / 12.05
			THICKNESS	mm/in	2 / 0.08	2 / 0.08
CASING	INDOOR UNIT			MATERIAL	HIGH IMPACT POLYSTYRENE	HIGH IMPACT POLYSTYRENE
				FINISHING	MAT	MAT
				COLOUR	WHITE	WHITE
	OUTDOOR UNIT			MATERIAL	GALVANISED MILD STEEL	GALVANISED MILD STEEL
				FINISHING	POLYESTER POWDER	POLYESTER POWDER
				COLOUR	LIGHT GREY	LIGHT GREY

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Component Data - Cooling Only (R410A)

MODEL	INDOOR UNIT			M5WM10J	M5WM15J
	OUTDOOR UNIT			M5LC10C	M5LC15C
INDOOR FAN	TYPE			CROSS FLOW FAN	CROSS FLOW FAN
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	92 / 3.6	92 / 3.6
	LENGTH		mm/in	607 / 23.9	607 / 23.9
INDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP44	IP44
OUTDOOR FAN	TYPE			PROPELLER	PROPELLER
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	406 / 16	406 / 16
OUTDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP24	IP24
COMPRESSOR	TYPE			ROTARY	ROTARY
	OIL TYPE			RB68A or FREOL ALPHA68M	RB68A or FREOL ALPHA68M
	OIL AMOUNT		cm^3 / fl.oz.	350 / 12.3	430 / 15.1
INDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS	mm/in	0.28 / 0.011	0.28 / 0.011
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC FIN)	ALUMINIUM (HYDROPHILIC FIN)
		THICKNESS	mm/in	0.11 / 0.004	0.11 / 0.004
		FACE AREA	m^2/ft^2	0.18 / 1.930	0.18 / 1.930
		ROW		2	2
		FIN PER INCH		18	18
OUTDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	9.52 / 3/8
		THICKNESS	mm/in	0.28 / 0.011	0.33 / 0.013
	FIN	MATERIAL		ALUMINIUM (RAISE LANCE)	ALUMINIUM (SLIT FIN)
		THICKNESS	mm/in	0.10 / 0.004	0.11 / 0.004
		FACE AREA	m^2/ft^2	0.36 / 3.940	0.36 / 3.940
		ROW		1	1
		FIN PER INCH		20	18
AIR QUALITY	FILTER	TYPE		MILDEW PROOF PP FILTER	MILDEW PROOF PP FILTER
		QUANTITY	pc	2	2
		SIZE LENGTH	mm/in	302 / 11.9	302 / 11.9
		SIZE WIDTH	mm/in	280 / 11.0	280 / 11.0
		SIZE THICKNESS	mm/in	2.0 / 0.1	2.0 / 0.1
CASING	INDOOR UNIT		MATERIAL	HIGH IMPACT POLYSTYRENE	HIGH IMPACT POLYSTYRENE
			FINISHING	MAT	MAT
			COLOUR	WHITE	WHITE
	OUTDOOR UNIT		MATERIAL	GALVANISED MILD STEEL	GALVANISED MILD STEEL
			FINISHING	POLYESTER POWDER	POLYESTER POWDER
			COLOUR	LIGHT GREY	LIGHT GREY

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Component Data - Heat Pump (R410A)

MODEL	INDOOR UNIT			M5WM10JR	M5WM15JR
	OUTDOOR UNIT			M5LC10CR	M5LC15CR
INDOOR FAN	TYPE			CROSS FLOW FAN	CROSS FLOW FAN
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	92 / 3.6	92 / 3.6
	LENGTH		mm/in	607 / 23.9	607 / 23.9
INDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP44	IP44
OUTDOOR FAN	TYPE			PROPELLER	PROPELLER
	QUANTITY			1	1
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE			DIRECT	DIRECT
	DIAMETER		mm/in	406 / 16	406 / 16
OUTDOOR FAN MOTOR	TYPE			INDUCTION	INDUCTION
	QUANTITY			1	1
	INDEX OF PROTECTION (IP)			IP24	IP24
COMPRESSOR	TYPE			ROTARY	ROTARY
	OIL TYPE			RB68A or FREOL ALPHA68M	RB68A or FREOL ALPHA68M
	OIL AMOUNT		cm³ / fl.oz.	350 / 12.3	430 / 15.1
INDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	7.00 / 0.276
		THICKNESS	mm/in	0.28 / 0.011	0.28 / 0.011
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC FIN)	ALUMINIUM (HYDROPHILIC FIN)
		THICKNESS	mm/in	0.11 / 0.004	0.11 / 0.004
		FACE AREA	m²/ft²	0.18 / 1.930	0.18 / 1.930
		ROW		2	2
		FIN PER INCH		18	18
OUTDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER	mm/in	7.00 / 0.276	9.52 / 3/8
		THICKNESS	mm/in	0.28 / 0.011	0.33 / 0.013
	FIN	MATERIAL		ALUMINIUM (RAISE LANCE)	ALUMINIUM (HYDROPHILIC FIN)
		THICKNESS	mm/in	0.10 / 0.004	0.11 / 0.004
		FACE AREA	m²/ft²	0.36 / 3.940	0.36 / 3.940
		ROW		1	1
		FIN PER INCH		20	18
AIR QUALITY	FILTER	TYPE		MILDEW PROOF PP FILTER	MILDEW PROOF PP FILTER
		QUANTITY	pc	2	2
		SIZE LENGTH	mm/in	302 / 11.9	302 / 11.9
		SIZE WIDTH	mm/in	280 / 11.0	280 / 11.0
		SIZE THICKNESS	mm/in	2.0 / 0.1	2.0 / 0.1
CASING	INDOOR UNIT		MATERIAL	HIGH IMPACT POLYSTYRENE	HIGH IMPACT POLYSTYRENE
			FINISHING	MAT	MAT
			COLOUR	WHITE	WHITE
	OUTDOOR UNIT		MATERIAL	GALVANISED MILD STEEL	GALVANISED MILD STEEL
			FINISHING	POLYESTER POWDER	POLYESTER POWDER
			COLOUR	LIGHT GREY	LIGHT GREY

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Performance Data

Calculation Steps

Interpolation method can be used to get the total capacity, TC and sensible capacity, SC and power input, PI at those temperatures which are not stated out in the table. Extrapolation method are not allowed to be used to get the TC, SC and PI

Example:

Model: MWM09J - MLC09C
Indoor Condition: 25°C DB, 17°C WB
Outdoor Condition: 37°C DB
Fan speed: High

Solution:

Overall
Based on the Performance table:

1. Refer to the Indoor DB column,
   - **25°C** is located between 24°C and 27°C for 16oCWB (Thus, Interpolation need to be applied)
   - **25°C** is located between 24°C and 27°C for 19oCWB (Thus, Interpolation need to be applied)
2. Refer to the Indoor WB column,
   - **17°C** is located between 16°CWB and 19°CWB for 25oCDB (Thus, Interpolation need to be applied)
3. Refer to the Outdoor DB column,
   - **37°C** is located between 35°C and 40°C. (Thus, Interpolation need to be applied)

Please follow the steps below in order to get the required capacity.

1st Step
Extrapolation of Indoor WB

Find TC, SC, PI for
(a) Indoor: ***25°C DB***, 16°C WB
Outdoor: 35°C DB
(b) Indoor: ***25°C DB***, 19°C WB
Outdoor: 35°C DB

(c) Indoor: ***25°C DB***, 16°C WB
Outdoor: 40°C DB
(d) Indoor: ***25°C DB***, 19°C WB
Outdoor: 40°C DB

2nd Step
Interpolation of Indoor DB

Find TC, SC, PI for
(a) Indoor: 25°C DB, ***17°C WB***
Outdoor: 35°C DB

(b) Indoor: 25°C DB, ***17°C WB***
Outdoor: 40°C DB

3rd Step
Interpolation of Outdoor DB

Find TC, SC, PI for
(a) Indoor: 25°C DB, 17°C WB
Outdoor: ***37°C DB***

Details:

1st Step:

To obtain the Total capacity, Sensible capacity and Power input for
(a) Indoor Condition: *25°C DB*, 16°C WB
Outdoor Condition: 35°C DB

Indoor DB˚C	Indoor WB˚C	Outdoor DB, ˚C			
			35		
			TC (kW)	SHC (kW)	PI (kW)
16					
	24		10.85	10.39	4.00
	25	.....	x_1	y_1	z_1
	27		11.03	11.03	4.01

Total capacity, TC

Interpolation Method:

$$\Rightarrow \frac{25^{o}\,C - 24^{o}\,C}{27^{o}\,C - 24^{o}\,C} = \frac{x_1 - 10.85kW}{11.03kW - 10.85kW}$$

$\Rightarrow x_1 = 10.91kW$

Sensible capacity, SHC

Interpolation Method:

$$\Rightarrow \frac{25^{o}\,C - 24^{o}\,C}{27^{o}\,C - 24^{o}\,C} = \frac{y_1 - 10.39kW}{11.03kW - 10.39kW}$$

$\Rightarrow y_1 = 10.60kW$

Power Input, PI

Interpolation Method:

$$\Rightarrow \frac{25^{o}\,C - 24^{o}\,C}{27^{o}\,C - 24^{o}\,C} = \frac{z_1 - 4.00kW}{4.01kW - 4.00kW}$$

$\Rightarrow z_1 = 4.00kW$

(b) Indoor Condition: *25°C DB*, 16°C WB
Outdoor Condition: 40°C DB

Indoor DB˚C	Indoor WB˚C	Outdoor DB, ˚C			
			40		
			TC (kW)	SHC (kW)	PI (kW)
16					
	24		10.42	10.23	4.36
	25	.....	x_2	y_2	z_2
	27		10.66	10.66	4.38

Total capacity, TC

Interpolation Method:

$$\Rightarrow \frac{25^{o}\,C - 24^{o}\,C}{27^{o}\,C - 24^{o}\,C} = \frac{x_2 - 10.42kW}{11.66kW - 10.42kW}$$

$\Rightarrow x_1 = 10.50kW$

Sensible capacity, SHC

Interpolation Method:

$$\Rightarrow \frac{25^{o}\,C - 24^{o}\,C}{27^{o}\,C - 24^{o}\,C} = \frac{y_2 - 10.23kW}{10.66kW - 10.23kW}$$

$\Rightarrow y_2 = 10.37kW$

Power Input, PI

Interpolation Method:

$$\Rightarrow \frac{25^{o}\,C - 24^{o}\,C}{27^{o}\,C - 24^{o}\,C} = \frac{z_2 - 4.36kW}{4.38kW - 4.36kW}$$

$\Rightarrow z_2 = 4.37kW$

*** Repeat process (a) and (b) in 1st step for the condition below:**

(c) Indoor Condition: *25°C DB*, 19°C WB
Outdoor Condition: 35°C DB

$\Rightarrow x_3 = 11.65kW$
$\Rightarrow y_3 = 8.94kW$
$\Rightarrow z_3 = 4.08kW$

(d) Indoor Condition: *25°C DB*, 19°C WB
Outdoor Condition: 40°C DB

$\Rightarrow x_4 = 11.36kW$
$\Rightarrow y_4 = 9.03kW$
$\Rightarrow z_4 = 4.43kW$

2nd Step:

To obtain the Total capacity, Sensible capacity and Power input for
(a) Indoor Condition: 25°C DB, ***17°C WB***
Outdoor Condition: 35°C DB

Indoor DB˚C	Indoor WB˚C	Outdoor DB, ˚C			
			35		
			TC (kW)	SHC (kW)	PI (kW)
			⋮	⋮	
16	**25**		10.91	10.60	4.00
17		.....	x_5	y_5	z_5
19			11.65	8.94	4.08

Total capacity, TC

Interpolation Method:

$$\Rightarrow \frac{17^{o}\,C - 16^{o}\,C}{19^{o}\,C - 16^{o}\,C} = \frac{x_5 - 10.91kW}{11.65kW - 10.91kW}$$

$\Rightarrow x_5 = 11.16kW$

Sensible capacity, SHC

Interpolation Method:

$$\Rightarrow \frac{17^{o}\,C - 16^{o}\,C}{19^{o}\,C - 16^{o}\,C} = \frac{y_5 - 10.60kW}{8.94kW - 10.60kW}$$

$\Rightarrow y_5 = 10.05kW$

Power Input, PI

Interpolation Method:

$$\Rightarrow \frac{17^{o}\,C - 16^{o}\,C}{19^{o}\,C - 16^{o}\,C} = \frac{z_5 - 4.00kW}{4.08kW - 4.00kW}$$

$\Rightarrow z_5 = 4.03kW$

(b) Indoor Condition: 25°C DB, ***17°C WB***
Outdoor Condition: 40°C DB

Indoor DB˚C	Indoor WB˚C	Outdoor DB, ˚C			
			40		
			TC (kW)	SHC (kW)	PI (kW)
			⋮	⋮	
16	**25**		10.50	10.37	4.37
17		.....	x_6	y_6	z_6
18			11.36	9.03	4.43

Total capacity, TC

Interpolation Method:

$$\Rightarrow \frac{17^{o}\,C - 16^{o}\,C}{19^{o}\,C - 16^{o}\,C} = \frac{x_6 - 10.50kW}{11.36kW - 10.50kW}$$

$\Rightarrow x_6 = 10.79kW$

Sensible capacity, SHC

Interpolation Method:

$$\Rightarrow \frac{17^{o}\,C - 16^{o}\,C}{19^{o}\,C - 16^{o}\,C} = \frac{y_6 - 10.37kW}{9.03kW - 10.37kW}$$

$\Rightarrow y_5 = 10.05kW$

Power Input, PI

Interpolation Method:

$$\Rightarrow \frac{17^{o}\,C - 16^{o}\,C}{19^{o}\,C - 16^{o}\,C} = \frac{z_6 - 4.37kW}{4.43kW - 4.37kW}$$

$\Rightarrow z_6 = 4.39kW$

3rd Step:

To obtain the Total capacity and Sensible capacity for
(a) Indoor Condition: 25°C DB, 17°C WB
Outdoor Condition: 37°C DB

Indoor DB˚C	Indoor WB˚C	Outdoor DB, ˚C								
			35			37			40		
			TC (kW)	SHC (kW)	PI (kW)	TC (kW)	SHC (kW)	PI (kW)	TC (kW)	SHC (kW)	PI (kW)
23	**15**	.....	11.16	10.05	4.03	x	y	z	10.79	9.92	4.39

Total capacity, TC

Interpolation Method:

$$\Rightarrow \frac{37^{o}\,C - 35^{o}\,C}{40^{o}\,C - 35^{o}\,C} = \frac{x - 11.16kW}{10.79kW - 11.16kW}$$

$\Rightarrow x = 11.01kW$

Sensible capacity, SHC

Interpolation Method:

$$\Rightarrow \frac{37^{o}\,C - 35^{o}\,C}{40^{o}\,C - 35^{o}\,C} = \frac{y - 10.05kW}{9.92kW - 10.05kW}$$

$\Rightarrow y = 9.99kW$

Power Input, PI

Interpolation Method:

$$\Rightarrow \frac{37^{o}\,C - 35^{o}\,C}{40^{o}\,C - 35^{o}\,C} = \frac{z - 4.03kW}{4.39kW - 4.03kW}$$

$\Rightarrow z = 4.17kW$

Cooling Only (R22)

Model: MWM09J - MLC09C
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
222	16°C	21°C	2.32	1.82	0.70	2.24	1.77	0.76	2.16	1.72	0.82	2.07	1.67	0.89	1.90	1.56	0.97	1.75	1.46	1.07
		24°C	2.32	2.17	0.70	2.24	2.13	0.76	2.16	2.08	0.82	2.07	2.02	0.89	1.90	1.89	0.97	1.76	1.76	1.07
		27°C	2.34	2.34	0.70	2.26	2.26	0.76	2.18	2.18	0.83	2.10	2.10	0.90	1.94	1.94	0.97	1.80	1.80	1.07
		30°C	2.41	2.41	0.71	2.34	2.34	0.77	2.27	2.27	0.83	2.20	2.20	0.90	2.04	2.04	0.98	1.91	1.91	1.08
	19°C	24°C	2.56	1.70	0.71	2.47	1.65	0.77	2.38	1.61	0.84	2.29	1.56	0.91	2.10	1.46	0.99	1.94	1.37	1.09
		27°C	2.56	1.94	0.71	2.47	1.90	0.77	2.38	1.85	0.84	2.29	1.81	0.91	2.10	1.69	0.99	1.94	1.60	1.09
		30°C	2.57	2.39	0.71	2.48	2.34	0.77	2.39	2.29	0.84	2.30	2.24	0.91	2.12	2.09	0.99	1.96	1.96	1.09
		33°C	2.60	2.60	0.72	2.51	2.51	0.78	2.43	2.43	0.84	2.35	2.35	0.91	2.17	2.17	0.99	2.03	2.03	1.10
	22°C	27°C	2.82	1.66	0.73	2.72	1.62	0.79	2.62	1.58	0.85	2.52	1.54	0.93	2.31	1.43	1.01	2.14	1.35	1.11
		30°C	2.82	2.02	0.73	2.72	1.98	0.79	2.62	1.93	0.85	2.52	1.89	0.93	2.32	1.77	1.01	2.14	1.68	1.11
		33°C	2.82	2.36	0.73	2.72	2.32	0.79	2.62	2.27	0.85	2.52	2.22	0.93	2.32	2.09	1.01	2.15	1.98	1.11
		36°C	2.83	2.68	0.73	2.73	2.62	0.79	2.64	2.57	0.86	2.54	2.51	0.93	2.35	2.35	1.01	2.18	2.18	1.11
279	16°C	21°C	2.42	1.89	0.71	2.33	1.85	0.77	2.24	1.80	0.83	2.15	1.75	0.90	1.97	1.63	0.98	1.82	1.53	1.08
		24°C	2.42	2.30	0.71	2.34	2.25	0.77	2.25	2.19	0.83	2.16	2.14	0.90	1.98	1.98	0.98	1.83	1.83	1.08
		27°C	2.45	2.45	0.71	2.37	2.37	0.77	2.29	2.29	0.83	2.21	2.21	0.91	2.04	2.04	0.98	1.90	1.90	1.09
		30°C	2.55	2.55	0.72	2.48	2.48	0.78	2.40	2.40	0.84	2.33	2.33	0.91	2.16	2.16	0.99	2.01	2.01	1.10
	19°C	24°C	2.66	1.79	0.72	2.57	1.75	0.78	2.47	1.70	0.85	2.37	1.66	0.92	2.18	1.54	1.00	2.01	1.45	1.10
		27°C	2.67	2.06	0.72	2.57	2.02	0.78	2.47	1.97	0.85	2.37	1.93	0.92	2.18	1.80	1.00	2.02	1.71	1.10
		30°C	2.68	2.55	0.72	2.58	2.49	0.78	2.49	2.44	0.85	2.40	2.38	0.92	2.21	2.21	1.00	2.05	2.05	1.10
		33°C	2.72	2.72	0.72	2.64	2.64	0.79	2.56	2.56	0.85	2.47	2.47	0.93	2.29	2.29	1.01	2.14	2.14	1.11
	22°C	27°C	2.92	1.76	0.73	2.82	1.71	0.80	2.72	1.67	0.86	2.61	1.63	0.94	2.40	1.52	1.01	2.22	1.43	1.12
		30°C	2.93	2.15	0.73	2.82	2.11	0.80	2.72	2.06	0.86	2.61	2.01	0.94	2.40	1.89	1.02	2.22	1.79	1.12
		33°C	2.93	2.52	0.74	2.83	2.48	0.80	2.73	2.43	0.86	2.62	2.37	0.94	2.41	2.23	1.02	2.23	2.11	1.12
		36°C	2.95	2.85	0.74	2.86	2.80	0.80	2.76	2.74	0.87	2.66	2.66	0.94	2.45	2.45	1.02	2.28	2.28	1.13
335	16°C	21°C	2.50	1.98	0.72	2.41	1.93	0.77	2.32	1.88	0.84	2.22	1.82	0.91	2.04	1.70	0.99	1.88	1.60	1.09
		24°C	2.52	2.40	0.72	2.43	2.35	0.77	2.34	2.29	0.84	2.24	2.23	0.91	2.06	2.06	0.99	1.90	1.90	1.09
		27°C	2.56	2.56	0.72	2.47	2.47	0.78	2.39	2.39	0.84	2.31	2.31	0.91	2.13	2.13	0.99	1.99	1.99	1.10
		30°C	2.69	2.69	0.72	2.61	2.61	0.79	2.53	2.53	0.85	2.44	2.44	0.92	2.26	2.26	1.00	2.11	2.11	1.11
	19°C	24°C	2.76	1.90	0.73	2.66	1.85	0.79	2.56	1.80	0.85	2.45	1.75	0.93	2.25	1.63	1.00	2.08	1.54	1.11
		27°C	2.76	2.19	0.73	2.67	2.14	0.79	2.57	2.09	0.85	2.46	2.04	0.93	2.26	1.91	1.00	2.09	1.81	1.11
		30°C	2.79	2.70	0.73	2.69	2.64	0.79	2.59	2.58	0.86	2.49	2.49	0.93	2.30	2.30	1.01	2.13	2.13	1.11
		33°C	2.85	2.85	0.73	2.76	2.76	0.79	2.68	2.68	0.86	2.59	2.59	0.94	2.40	2.40	1.02	2.25	2.25	1.12
	22°C	27°C	3.03	1.86	0.74	2.92	1.82	0.80	2.81	1.77	0.87	2.69	1.72	0.94	2.48	1.61	1.02	2.29	1.52	1.13
		30°C	3.03	2.29	0.74	2.92	2.24	0.80	2.81	2.20	0.87	2.70	2.15	0.94	2.48	2.01	1.02	2.29	1.90	1.13
		33°C	3.04	2.68	0.74	2.94	2.63	0.80	2.83	2.58	0.87	2.72	2.52	0.95	2.50	2.36	1.03	2.32	2.24	1.13
		36°C	3.07	3.03	0.74	2.97	2.97	0.81	2.87	2.87	0.87	2.77	2.77	0.95	2.56	2.56	1.03	2.38	2.38	1.14

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: MWM15J - MLC15C
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
240	16°C	21°C	3.32	2.38	0.89	3.20	2.31	0.97	3.08	2.25	1.05	2.96	2.19	1.13	2.71	2.04	1.23	2.51	1.92	1.36
		24°C	3.32	2.85	0.89	3.20	2.78	0.97	3.08	2.72	1.05	2.96	2.65	1.14	2.72	2.47	1.23	2.52	2.33	1.36
		27°C	3.35	3.23	0.90	3.23	3.15	0.97	3.12	3.08	1.05	3.00	3.00	1.14	2.77	2.77	1.24	2.58	2.58	1.36
		30°C	3.45	3.45	0.90	3.35	3.35	0.97	3.25	3.25	1.06	3.14	3.14	1.15	2.91	2.91	1.25	2.73	2.73	1.38
	19°C	24°C	3.66	2.22	0.91	3.53	2.16	0.98	3.40	2.11	1.06	3.26	2.05	1.15	3.00	1.91	1.25	2.77	1.79	1.38
		27°C	3.66	2.54	0.91	3.53	2.48	0.98	3.40	2.42	1.06	3.27	2.37	1.15	3.00	2.21	1.25	2.78	2.10	1.38
		30°C	3.67	3.13	0.91	3.54	3.07	0.98	3.41	3.00	1.07	3.28	2.93	1.16	3.02	2.74	1.25	2.81	2.59	1.38
		33°C	3.71	3.71	0.91	3.59	3.59	0.99	3.47	3.47	1.07	3.35	3.35	1.16	3.10	3.10	1.26	2.90	2.90	1.39
	22°C	27°C	4.02	2.17	0.92	3.88	2.12	1.00	3.74	2.07	1.09	3.60	2.01	1.18	3.31	1.87	1.28	3.06	1.77	1.41
		30°C	4.02	2.65	0.92	3.89	2.59	1.00	3.74	2.53	1.09	3.60	2.47	1.18	3.31	2.31	1.28	3.06	2.19	1.41
		33°C	4.03	3.09	0.92	3.89	3.03	1.00	3.75	2.97	1.09	3.60	2.91	1.18	3.31	2.73	1.28	3.07	2.60	1.41
		36°C	4.04	3.51	0.92	3.91	3.44	1.00	3.77	3.36	1.09	3.63	3.29	1.18	3.35	3.08	1.28	3.12	2.93	1.41
293	16°C	21°C	3.45	2.48	0.90	3.33	2.42	0.97	3.20	2.35	1.06	3.07	2.29	1.14	2.82	2.13	1.24	2.60	2.00	1.37
		24°C	3.46	3.01	0.90	3.34	2.94	0.98	3.21	2.87	1.06	3.08	2.80	1.15	2.83	2.61	1.24	2.62	2.46	1.37
		27°C	3.50	3.42	0.90	3.38	3.34	0.98	3.27	3.25	1.06	3.15	3.15	1.15	2.91	2.91	1.25	2.71	2.71	1.38
		30°C	3.65	3.65	0.91	3.54	3.54	0.99	3.43	3.43	1.07	3.32	3.32	1.16	3.08	3.08	1.26	2.88	2.88	1.39
	19°C	24°C	3.80	2.35	0.92	3.67	2.29	0.99	3.53	2.23	1.07	3.39	2.17	1.17	3.11	2.02	1.26	2.87	1.90	1.39
		27°C	3.81	2.70	0.92	3.67	2.64	0.99	3.53	2.58	1.07	3.39	2.52	1.17	3.12	2.36	1.26	2.88	2.23	1.39
		30°C	3.83	3.33	0.92	3.69	3.26	0.99	3.56	3.19	1.08	3.42	3.11	1.17	3.15	2.91	1.27	2.93	2.75	1.40
		33°C	3.89	3.89	0.92	3.77	3.77	1.00	3.65	3.65	1.08	3.53	3.53	1.18	3.27	3.27	1.28	3.06	3.06	1.41
	22°C	27°C	4.18	2.30	0.93	4.03	2.24	1.01	3.88	2.19	1.10	3.73	2.13	1.19	3.42	1.98	1.29	3.17	1.87	1.42
		30°C	4.18	2.82	0.93	4.03	2.76	1.01	3.88	2.70	1.10	3.73	2.64	1.19	3.43	2.47	1.29	3.17	2.34	1.42
		33°C	4.19	3.30	0.93	4.04	3.24	1.01	3.89	3.17	1.10	3.74	3.11	1.19	3.44	2.91	1.29	3.19	2.77	1.42
		36°C	4.21	3.73	0.94	4.08	3.66	1.01	3.94	3.59	1.10	3.79	3.50	1.19	3.50	3.28	1.30	3.26	3.09	1.43
346	16°C	21°C	3.58	2.59	0.91	3.45	2.52	0.98	3.31	2.46	1.06	3.18	2.39	1.15	2.91	2.22	1.25	2.69	2.09	1.38
		24°C	3.60	3.14	0.91	3.47	3.07	0.98	3.34	2.99	1.07	3.20	2.92	1.16	2.94	2.72	1.25	2.72	2.57	1.38
		27°C	3.65	3.60	0.91	3.54	3.51	0.99	3.42	3.41	1.07	3.29	3.29	1.16	3.04	3.04	1.26	2.84	2.84	1.39
		30°C	3.84	3.84	0.92	3.73	3.73	1.00	3.61	3.61	1.08	3.49	3.49	1.17	3.23	3.23	1.28	3.02	3.02	1.41
	19°C	24°C	3.94	2.48	0.92	3.80	2.42	1.00	3.65	2.36	1.08	3.50	2.29	1.17	3.21	2.14	1.27	2.97	2.02	1.40
		27°C	3.95	2.87	0.92	3.81	2.81	1.00	3.66	2.74	1.08	3.52	2.67	1.18	3.23	2.50	1.28	2.98	2.37	1.41
		30°C	3.98	3.53	0.93	3.84	3.46	1.00	3.70	3.38	1.09	3.56	3.29	1.18	3.28	3.08	1.28	3.04	2.90	1.41
		33°C	4.07	4.07	0.93	3.95	3.95	1.01	3.83	3.83	1.09	3.70	3.70	1.19	3.43	3.43	1.29	3.21	3.21	1.43
	22°C	27°C	4.32	2.43	0.94	4.17	2.37	1.02	4.01	2.32	1.11	3.85	2.25	1.20	3.54	2.10	1.30	3.27	1.99	1.43
		30°C	4.33	2.99	0.94	4.18	2.94	1.02	4.02	2.87	1.11	3.86	2.81	1.20	3.54	2.63	1.30	3.28	2.49	1.43
		33°C	4.35	3.51	0.94	4.20	3.45	1.02	4.04	3.37	1.11	3.88	3.30	1.20	3.57	3.09	1.30	3.31	2.94	1.44
		36°C	4.38	3.96	0.94	4.25	3.89	1.02	4.10	3.80	1.11	3.95	3.71	1.21	3.65	3.46	1.31	3.41	3.26	1.44

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: MWM20J - MLC020C
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
424	16°C	21°C	5.25	3.57	1.41	5.07	3.47	1.52	4.88	3.38	1.65	4.68	3.28	1.79	4.30	3.06	1.94	3.97	2.87	2.14
		24°C	5.26	4.27	1.41	5.07	4.17	1.52	4.88	4.08	1.65	4.69	3.98	1.79	4.31	3.71	1.94	3.98	3.50	2.14
		27°C	5.30	4.84	1.41	5.12	4.73	1.52	4.94	4.62	1.65	4.76	4.50	1.79	4.39	4.19	1.94	4.08	3.94	2.14
		30°C	5.46	5.46	1.41	5.31	5.31	1.53	5.15	5.15	1.66	4.98	4.98	1.80	4.62	4.62	1.96	4.32	4.32	2.16
	19°C	24°C	5.79	3.33	1.43	5.59	3.25	1.55	5.38	3.16	1.67	5.17	3.07	1.82	4.75	2.86	1.97	4.39	2.69	2.17
		27°C	5.80	3.81	1.43	5.59	3.73	1.55	5.39	3.64	1.68	5.18	3.55	1.82	4.76	3.32	1.97	4.40	3.15	2.17
		30°C	5.81	4.70	1.43	5.60	4.60	1.55	5.41	4.50	1.68	5.20	4.39	1.82	4.79	4.11	1.97	4.44	3.89	2.18
		33°C	5.87	5.87	1.43	5.68	5.68	1.55	5.50	5.50	1.68	5.31	5.31	1.83	4.91	4.91	1.98	4.59	4.59	2.19
	22°C	27°C	6.37	3.26	1.45	6.15	3.18	1.58	5.93	3.10	1.71	5.70	3.02	1.85	5.24	2.81	2.01	4.85	2.65	2.21
		30°C	6.37	3.97	1.45	6.15	3.89	1.58	5.93	3.80	1.71	5.70	3.71	1.85	5.24	3.47	2.01	4.85	3.29	2.21
		33°C	6.38	4.64	1.45	6.16	4.55	1.58	5.93	4.46	1.71	5.70	4.37	1.85	5.25	4.10	2.01	4.86	3.90	2.22
		36°C	6.40	5.26	1.46	6.19	5.16	1.58	5.97	5.05	1.71	5.76	4.94	1.86	5.31	4.63	2.01	4.93	4.39	2.22
478	16°C	21°C	5.46	3.72	1.42	5.27	3.62	1.53	5.07	3.53	1.66	4.86	3.43	1.80	4.46	3.19	1.95	4.11	3.00	2.15
		24°C	5.48	4.52	1.42	5.28	4.41	1.53	5.09	4.30	1.66	4.88	4.20	1.80	4.48	3.91	1.96	4.14	3.69	2.16
		27°C	5.55	5.13	1.42	5.36	5.01	1.54	5.17	4.88	1.67	4.99	4.74	1.81	4.61	4.40	1.96	4.29	4.11	2.17
		30°C	5.78	5.78	1.43	5.61	5.61	1.55	5.44	5.44	1.68	5.26	5.26	1.83	4.88	4.88	1.98	4.56	4.56	2.19
	19°C	24°C	6.02	3.52	1.44	5.80	3.43	1.56	5.59	3.34	1.69	5.36	3.25	1.83	4.92	3.03	1.99	4.55	2.85	2.19
		27°C	6.03	4.05	1.44	5.81	3.96	1.56	5.60	3.87	1.69	5.37	3.78	1.83	4.94	3.54	1.99	4.56	3.35	2.19
		30°C	6.06	5.00	1.44	5.85	4.89	1.56	5.64	4.78	1.69	5.42	4.67	1.84	4.99	4.36	1.99	4.63	4.12	2.20
		33°C	6.16	6.16	1.45	5.97	5.97	1.57	5.78	5.78	1.70	5.59	5.59	1.85	5.18	5.18	2.01	4.84	4.84	2.22
	22°C	27°C	6.61	3.45	1.47	6.38	3.36	1.59	6.14	3.28	1.72	5.90	3.19	1.87	5.42	2.98	2.03	5.01	2.81	2.23
		30°C	6.62	4.23	1.47	6.39	4.14	1.59	6.15	4.05	1.72	5.91	3.95	1.87	5.43	3.70	2.03	5.02	3.51	2.23
		33°C	6.63	4.95	1.47	6.40	4.86	1.59	6.17	4.76	1.73	5.93	4.66	1.87	5.45	4.37	2.03	5.05	4.15	2.24
		36°C	6.67	5.60	1.47	6.46	5.49	1.60	6.23	5.38	1.73	6.01	5.26	1.88	5.54	4.92	2.04	5.17	4.64	2.25
536	16°C	21°C	5.67	3.88	1.43	5.46	3.78	1.55	5.25	3.68	1.67	5.03	3.58	1.82	4.61	3.33	1.97	4.25	3.14	2.17
		24°C	5.70	4.72	1.43	5.49	4.60	1.55	5.28	4.49	1.68	5.07	4.37	1.82	4.65	4.08	1.97	4.30	3.85	2.17
		27°C	5.79	5.41	1.44	5.60	5.27	1.55	5.41	5.12	1.68	5.21	4.96	1.83	4.82	4.59	1.98	4.49	4.29	2.19
		30°C	6.08	6.08	1.45	5.90	5.90	1.57	5.72	5.72	1.70	5.53	5.53	1.85	5.12	5.12	2.01	4.78	4.78	2.22
	19°C	24°C	6.24	3.72	1.45	6.01	3.63	1.57	5.78	3.54	1.70	5.55	3.44	1.85	5.09	3.21	2.00	4.70	3.03	2.21
		27°C	6.25	4.31	1.45	6.03	4.21	1.57	5.80	4.11	1.71	5.57	4.01	1.85	5.11	3.75	2.01	4.73	3.55	2.21
		30°C	6.31	5.30	1.46	6.08	5.19	1.58	5.86	5.07	1.71	5.64	4.94	1.85	5.19	4.61	2.01	4.82	4.35	2.22
		33°C	6.44	6.44	1.46	6.25	6.25	1.59	6.06	6.06	1.72	5.86	5.86	1.87	5.43	5.43	2.03	5.08	5.08	2.24
	22°C	27°C	6.84	3.64	1.48	6.60	3.56	1.60	6.35	3.47	1.74	6.10	3.38	1.89	5.60	3.16	2.04	5.17	2.98	2.25
		30°C	6.86	4.49	1.48	6.61	4.41	1.60	6.36	4.31	1.74	6.11	4.21	1.89	5.61	3.94	2.05	5.19	3.74	2.25
		33°C	6.88	5.26	1.48	6.64	5.17	1.61	6.40	5.06	1.74	6.15	4.95	1.89	5.66	4.64	2.05	5.24	4.40	2.26
		36°C	6.94	5.94	1.49	6.72	5.83	1.61	6.49	5.71	1.75	6.26	5.56	1.90	5.78	5.19	2.06	5.39	4.89	2.27

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: MWM25J - MLC025C
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
474	16°C	21°C	6.49	4.59	1.88	6.26	4.47	2.04	6.03	4.35	2.21	5.79	4.23	2.39	5.32	3.94	2.60	4.91	3.70	2.86
		24°C	6.50	5.50	1.88	6.27	5.38	2.04	6.04	5.25	2.21	5.80	5.12	2.39	5.33	4.78	2.60	4.93	4.51	2.86
		27°C	6.55	6.24	1.89	6.34	6.10	2.04	6.11	5.95	2.21	5.88	5.80	2.40	5.43	5.40	2.60	5.05	5.05	2.87
		30°C	6.76	6.76	1.90	6.56	6.56	2.05	6.36	6.36	2.23	6.16	6.16	2.42	5.71	5.71	2.63	5.34	5.34	2.90
	19°C	24°C	7.16	4.29	1.91	6.91	4.18	2.07	6.66	4.07	2.25	6.39	3.95	2.43	5.88	3.68	2.64	5.43	3.47	2.91
		27°C	7.17	4.91	1.91	6.92	4.80	2.07	6.66	4.69	2.25	6.40	4.57	2.44	5.88	4.28	2.64	5.44	4.05	2.91
		30°C	7.18	6.06	1.91	6.93	5.93	2.07	6.69	5.80	2.25	6.43	5.66	2.44	5.92	5.29	2.65	5.49	5.01	2.92
		33°C	7.26	7.26	1.92	7.03	7.03	2.08	6.80	6.80	2.25	6.57	6.57	2.45	6.08	6.08	2.66	5.68	5.68	2.94
	22°C	27°C	7.88	4.20	1.95	7.61	4.10	2.11	7.33	3.99	2.29	7.04	3.88	2.48	6.48	3.62	2.69	6.00	3.41	2.97
		30°C	7.88	5.12	1.95	7.61	5.01	2.11	7.33	4.89	2.29	7.05	4.78	2.48	6.48	4.47	2.69	6.00	4.24	2.97
		33°C	7.89	5.98	1.95	7.61	5.86	2.11	7.34	5.75	2.29	7.05	5.63	2.48	6.49	5.28	2.69	6.01	5.02	2.97
		36°C	7.91	6.78	1.95	7.65	6.64	2.11	7.39	6.50	2.29	7.12	6.36	2.49	6.56	5.96	2.70	6.10	5.66	2.98
537	16°C	21°C	6.76	4.79	1.90	6.51	4.67	2.06	6.27	4.54	2.23	6.01	4.42	2.41	5.51	4.11	2.62	5.09	3.87	2.89
		24°C	6.78	5.82	1.90	6.53	5.68	2.06	6.29	5.54	2.23	6.03	5.40	2.42	5.54	5.04	2.62	5.12	4.76	2.89
		27°C	6.86	6.61	1.91	6.63	6.45	2.06	6.40	6.29	2.24	6.17	6.10	2.43	5.70	5.66	2.63	5.31	5.30	2.91
		30°C	7.14	7.14	1.92	6.94	6.94	2.08	6.73	6.73	2.26	6.51	6.51	2.45	6.03	6.03	2.66	5.64	5.64	2.94
	19°C	24°C	7.44	4.53	1.93	7.18	4.42	2.09	6.91	4.30	2.27	6.63	4.19	2.46	6.09	3.90	2.66	5.63	3.68	2.94
		27°C	7.46	5.22	1.93	7.19	5.11	2.09	6.92	4.99	2.27	6.64	4.87	2.46	6.10	4.55	2.67	5.64	4.31	2.94
		30°C	7.49	6.44	1.94	7.23	6.30	2.10	6.97	6.16	2.27	6.71	6.01	2.46	6.17	5.62	2.67	5.73	5.31	2.95
		33°C	7.62	7.62	1.94	7.38	7.38	2.10	7.15	7.15	2.28	6.91	6.91	2.48	6.40	6.40	2.69	5.99	5.99	2.97
	22°C	27°C	8.18	4.44	1.97	7.89	4.33	2.13	7.60	4.22	2.31	7.30	4.11	2.51	6.70	3.83	2.72	6.20	3.62	2.99
		30°C	8.19	5.45	1.97	7.90	5.33	2.13	7.61	5.21	2.31	7.30	5.09	2.51	6.71	4.77	2.72	6.21	4.53	2.99
		33°C	8.20	6.38	1.97	7.92	6.26	2.13	7.63	6.13	2.31	7.33	6.00	2.51	6.74	5.63	2.72	6.25	5.34	3.00
		36°C	8.25	7.21	1.97	7.99	7.08	2.14	7.71	6.93	2.32	7.43	6.77	2.52	6.85	6.33	2.73	6.39	5.98	3.01
616	16°C	21°C	7.01	5.00	1.92	6.75	4.87	2.07	6.49	4.74	2.24	6.22	4.61	2.43	5.71	4.29	2.64	5.26	4.04	2.91
		24°C	7.04	6.08	1.92	6.79	5.93	2.08	6.53	5.79	2.25	6.27	5.63	2.44	5.76	5.26	2.64	5.32	4.96	2.91
		27°C	7.16	6.96	1.92	6.92	6.78	2.08	6.69	6.59	2.26	6.45	6.39	2.45	5.96	5.92	2.66	5.55	5.53	2.94
		30°C	7.51	7.51	1.94	7.29	7.29	2.10	7.07	7.07	2.28	6.84	6.84	2.48	6.33	6.33	2.69	5.91	5.91	2.97
	19°C	24°C	7.71	4.80	1.95	7.43	4.68	2.11	7.15	4.56	2.28	6.86	4.43	2.48	6.29	4.13	2.69	5.81	3.90	2.96
		27°C	7.73	5.55	1.95	7.46	5.42	2.11	7.18	5.29	2.29	6.89	5.17	2.48	6.32	4.83	2.69	5.84	4.57	2.96
		30°C	7.80	6.83	1.95	7.52	6.68	2.12	7.25	6.53	2.29	6.98	6.36	2.49	6.42	5.94	2.70	5.96	5.60	2.97
		33°C	7.97	7.97	1.96	7.73	7.73	2.13	7.50	7.50	2.31	7.25	7.25	2.51	6.72	6.72	2.72	6.28	6.28	3.01
	22°C	27°C	8.46	4.69	1.99	8.16	4.59	2.15	7.85	4.47	2.33	7.54	4.36	2.53	6.92	4.06	2.74	6.40	3.84	3.02
		30°C	8.48	5.78	1.99	8.18	5.67	2.15	7.87	5.55	2.33	7.55	5.42	2.53	6.94	5.08	2.74	6.42	4.82	3.02
		33°C	8.51	6.78	1.99	8.21	6.66	2.15	7.91	6.52	2.34	7.60	6.38	2.53	6.99	5.98	2.75	6.48	5.67	3.03
		36°C	8.58	7.65	1.99	8.32	7.51	2.16	8.03	7.35	2.34	7.74	7.17	2.54	7.15	6.68	2.76	6.67	6.29	3.05

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Heat Pump (R22)

Model: MWM09JR - MLC09CR
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
222	16°C	21°C	2.32	1.82	0.70	2.24	1.77	0.76	2.16	1.72	0.82	2.07	1.67	0.89	1.90	1.56	0.97	1.75	1.46	1.07
		24°C	2.32	2.17	0.70	2.24	2.13	0.76	2.16	2.08	0.82	2.07	2.02	0.89	1.90	1.89	0.97	1.76	1.76	1.07
		27°C	2.34	2.34	0.70	2.26	2.26	0.76	2.18	2.18	0.83	2.10	2.10	0.90	1.94	1.94	0.97	1.80	1.80	1.07
		30°C	2.41	2.41	0.71	2.34	2.34	0.77	2.27	2.27	0.83	2.20	2.20	0.90	2.04	2.04	0.98	1.91	1.91	1.08
	19°C	24°C	2.56	1.70	0.71	2.47	1.65	0.77	2.38	1.61	0.84	2.29	1.56	0.91	2.10	1.46	0.99	1.94	1.37	1.09
		27°C	2.56	1.94	0.71	2.47	1.90	0.77	2.38	1.85	0.84	2.29	1.81	0.91	2.10	1.69	0.99	1.94	1.60	1.09
		30°C	2.57	2.39	0.71	2.48	2.34	0.77	2.39	2.29	0.84	2.30	2.24	0.91	2.12	2.09	0.99	1.96	1.96	1.09
		33°C	2.60	2.60	0.72	2.51	2.51	0.78	2.43	2.43	0.84	2.35	2.35	0.91	2.17	2.17	0.99	2.03	2.03	1.10
	22°C	27°C	2.82	1.66	0.73	2.72	1.62	0.79	2.62	1.58	0.85	2.52	1.54	0.93	2.31	1.43	1.01	2.14	1.35	1.11
		30°C	2.82	2.02	0.73	2.72	1.98	0.79	2.62	1.93	0.85	2.52	1.89	0.93	2.32	1.77	1.01	2.14	1.68	1.11
		33°C	2.82	2.36	0.73	2.72	2.32	0.79	2.62	2.27	0.85	2.52	2.22	0.93	2.32	2.09	1.01	2.15	1.98	1.11
		36°C	2.83	2.68	0.73	2.73	2.62	0.79	2.64	2.57	0.86	2.54	2.51	0.93	2.35	2.35	1.01	2.18	2.18	1.11
279	16°C	21°C	2.42	1.89	0.71	2.33	1.85	0.77	2.24	1.80	0.83	2.15	1.75	0.90	1.97	1.63	0.98	1.82	1.53	1.08
		24°C	2.42	2.30	0.71	2.34	2.25	0.77	2.25	2.19	0.83	2.16	2.14	0.90	1.98	1.98	0.98	1.83	1.83	1.08
		27°C	2.45	2.45	0.71	2.37	2.37	0.77	2.29	2.29	0.83	2.21	2.21	0.91	2.04	2.04	0.98	1.90	1.90	1.09
		30°C	2.55	2.55	0.72	2.48	2.48	0.78	2.40	2.40	0.84	2.33	2.33	0.91	2.16	2.16	0.99	2.01	2.01	1.10
	19°C	24°C	2.66	1.79	0.72	2.57	1.75	0.78	2.47	1.70	0.85	2.37	1.66	0.92	2.18	1.54	1.00	2.01	1.45	1.10
		27°C	2.67	2.06	0.72	2.57	2.02	0.78	2.47	1.97	0.85	2.37	1.93	0.92	2.18	1.80	1.00	2.02	1.71	1.10
		30°C	2.68	2.55	0.72	2.58	2.49	0.78	2.49	2.44	0.85	2.40	2.38	0.92	2.21	2.21	1.00	2.05	2.05	1.10
		33°C	2.72	2.72	0.72	2.64	2.64	0.79	2.56	2.56	0.85	2.47	2.47	0.93	2.29	2.29	1.01	2.14	2.14	1.11
	22°C	27°C	2.92	1.76	0.73	2.82	1.71	0.80	2.72	1.67	0.86	2.61	1.63	0.94	2.40	1.52	1.01	2.22	1.43	1.12
		30°C	2.93	2.15	0.73	2.82	2.11	0.80	2.72	2.06	0.86	2.61	2.01	0.94	2.40	1.89	1.02	2.22	1.79	1.12
		33°C	2.93	2.52	0.74	2.83	2.48	0.80	2.73	2.43	0.86	2.62	2.37	0.94	2.41	2.23	1.02	2.23	2.11	1.12
		36°C	2.95	2.85	0.74	2.86	2.80	0.80	2.76	2.74	0.87	2.66	2.66	0.94	2.45	2.45	1.02	2.28	2.28	1.13
335	16°C	21°C	2.50	1.98	0.72	2.41	1.93	0.77	2.32	1.88	0.84	2.22	1.82	0.91	2.04	1.70	0.99	1.88	1.60	1.09
		24°C	2.52	2.40	0.72	2.43	2.35	0.77	2.34	2.29	0.84	2.24	2.23	0.91	2.06	2.06	0.99	1.90	1.90	1.09
		27°C	2.56	2.56	0.72	2.47	2.47	0.78	2.39	2.39	0.84	2.31	2.31	0.91	2.13	2.13	0.99	1.99	1.99	1.10
		30°C	2.69	2.69	0.72	2.61	2.61	0.79	2.53	2.53	0.85	2.44	2.44	0.92	2.26	2.26	1.00	2.11	2.11	1.11
	19°C	24°C	2.76	1.90	0.73	2.66	1.85	0.79	2.56	1.80	0.85	2.45	1.75	0.93	2.25	1.63	1.00	2.08	1.54	1.11
		27°C	2.76	2.19	0.73	2.67	2.14	0.79	2.57	2.09	0.85	2.46	2.04	0.93	2.26	1.91	1.00	2.09	1.81	1.11
		30°C	2.79	2.70	0.73	2.69	2.64	0.79	2.59	2.58	0.86	2.49	2.49	0.93	2.30	2.30	1.01	2.13	2.13	1.11
		33°C	2.85	2.85	0.73	2.76	2.76	0.79	2.68	2.68	0.86	2.59	2.59	0.94	2.40	2.40	1.02	2.25	2.25	1.12
	22°C	27°C	3.03	1.86	0.74	2.92	1.82	0.80	2.81	1.77	0.87	2.69	1.72	0.94	2.48	1.61	1.02	2.29	1.52	1.13
		30°C	3.03	2.29	0.74	2.92	2.24	0.80	2.81	2.20	0.87	2.70	2.15	0.94	2.48	2.01	1.02	2.29	1.90	1.13
		33°C	3.04	2.68	0.74	2.94	2.63	0.80	2.83	2.58	0.87	2.72	2.52	0.95	2.50	2.36	1.03	2.32	2.24	1.13
		36°C	3.07	3.03	0.74	2.97	2.97	0.81	2.87	2.87	0.87	2.77	2.77	0.95	2.56	2.56	1.03	2.38	2.38	1.14

Model: MWM09JR - MLC09CR
Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	1.169	1.169	1.441	1.441	1.532	1.532	2.528	2.528	3.071	3.071	3.343	3.343	3.615	3.615
17	1.145	1.145	1.414	1.414	1.503	1.503	2.523	2.523	2.988	2.988	3.250	3.250	3.512	3.512
19	1.122	1.122	1.386	1.386	1.474	1.474	2.517	2.517	2.904	2.904	3.157	3.157	3.409	3.409
21	1.098	1.098	1.359	1.359	1.445	1.445	2.512	2.512	2.821	2.821	3.064	3.064	3.306	3.306
23	1.090	1.090	1.335	1.335	1.417	1.417	2.386	2.386	2.737	2.737	2.971	2.971	3.204	3.204
25	1.083	1.083	1.312	1.312	1.388	1.388	2.260	2.260	2.654	2.654	2.877	2.877	3.101	3.101
27	1.076	1.076	1.288	1.288	1.359	1.359	2.134	2.134	2.571	2.571	2.784	2.784	2.998	2.998
	FROST REGION													

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: MWM15JR - MLC15CR
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
240	16°C	21°C	3.26	2.34	0.91	3.14	2.28	0.98	3.03	2.21	1.06	2.91	2.15	1.15	2.67	2.00	1.25	2.46	1.88	1.38
		24°C	3.26	2.80	0.91	3.15	2.73	0.98	3.03	2.67	1.06	2.91	2.60	1.15	2.67	2.43	1.25	2.47	2.29	1.38
		27°C	3.29	3.17	0.91	3.18	3.10	0.98	3.07	3.03	1.06	2.95	2.95	1.15	2.72	2.72	1.25	2.54	2.54	1.38
		30°C	3.39	3.39	0.91	3.29	3.29	0.99	3.19	3.19	1.07	3.09	3.09	1.16	2.87	2.87	1.26	2.68	2.68	1.39
	19°C	24°C	3.60	2.18	0.92	3.47	2.13	1.00	3.34	2.07	1.08	3.21	2.01	1.17	2.95	1.87	1.27	2.73	1.76	1.40
		27°C	3.60	2.50	0.92	3.47	2.44	1.00	3.34	2.38	1.08	3.21	2.33	1.17	2.95	2.18	1.27	2.73	2.06	1.40
		30°C	3.60	3.08	0.92	3.48	3.01	1.00	3.36	2.95	1.08	3.23	2.88	1.17	2.97	2.69	1.27	2.76	2.55	1.40
		33°C	3.65	3.65	0.92	3.53	3.53	1.00	3.41	3.41	1.08	3.30	3.30	1.18	3.05	3.05	1.28	2.85	2.85	1.41
	22°C	27°C	3.96	2.14	0.94	3.82	2.08	1.01	3.68	2.03	1.10	3.54	1.98	1.19	3.25	1.84	1.29	3.01	1.74	1.43
		30°C	3.96	2.60	0.94	3.82	2.55	1.01	3.68	2.49	1.10	3.54	2.43	1.19	3.25	2.27	1.29	3.01	2.16	1.43
		33°C	3.96	3.04	0.94	3.82	2.98	1.01	3.68	2.92	1.10	3.54	2.86	1.19	3.26	2.69	1.29	3.02	2.55	1.43
		36°C	3.97	3.45	0.94	3.84	3.38	1.02	3.71	3.31	1.10	3.57	3.23	1.20	3.29	3.03	1.30	3.06	2.88	1.43
293	16°C	21°C	3.39	2.44	0.91	3.27	2.37	0.99	3.15	2.31	1.07	3.02	2.25	1.16	2.77	2.09	1.26	2.55	1.97	1.39
		24°C	3.40	2.96	0.91	3.28	2.89	0.99	3.16	2.82	1.07	3.03	2.75	1.16	2.78	2.57	1.26	2.57	2.42	1.39
		27°C	3.44	3.36	0.92	3.33	3.28	0.99	3.21	3.20	1.07	3.10	3.10	1.17	2.86	2.86	1.27	2.66	2.66	1.40
		30°C	3.59	3.59	0.92	3.48	3.48	1.00	3.38	3.38	1.08	3.27	3.27	1.18	3.03	3.03	1.28	2.83	2.83	1.41
	19°C	24°C	3.74	2.31	0.93	3.60	2.25	1.01	3.47	2.19	1.09	3.33	2.13	1.18	3.06	1.98	1.28	2.82	1.87	1.41
		27°C	3.74	2.66	0.93	3.61	2.60	1.01	3.48	2.54	1.09	3.34	2.48	1.18	3.06	2.32	1.28	2.83	2.19	1.41
		30°C	3.76	3.28	0.93	3.63	3.21	1.01	3.50	3.13	1.09	3.37	3.06	1.18	3.10	2.86	1.28	2.88	2.70	1.42
		33°C	3.82	3.82	0.93	3.71	3.71	1.01	3.59	3.59	1.10	3.47	3.47	1.19	3.21	3.21	1.29	3.01	3.01	1.43
	22°C	27°C	4.11	2.26	0.95	3.96	2.20	1.02	3.81	2.15	1.11	3.66	2.09	1.20	3.37	1.95	1.31	3.11	1.84	1.44
		30°C	4.11	2.77	0.95	3.97	2.71	1.02	3.82	2.65	1.11	3.67	2.59	1.20	3.37	2.43	1.31	3.12	2.30	1.44
		33°C	4.12	3.25	0.95	3.98	3.18	1.03	3.83	3.12	1.11	3.68	3.05	1.21	3.38	2.86	1.31	3.14	2.72	1.44
		36°C	4.14	3.67	0.95	4.01	3.60	1.03	3.87	3.53	1.11	3.73	3.44	1.21	3.44	3.22	1.31	3.21	3.04	1.45
346	16°C	21°C	3.52	2.54	0.92	3.39	2.48	1.00	3.26	2.41	1.08	3.12	2.35	1.17	2.87	2.19	1.27	2.64	2.06	1.40
		24°C	3.54	3.09	0.92	3.41	3.02	1.00	3.28	2.94	1.08	3.15	2.87	1.17	2.89	2.68	1.27	2.67	2.52	1.40
		27°C	3.59	3.54	0.93	3.48	3.45	1.00	3.36	3.35	1.09	3.24	3.24	1.18	2.99	2.99	1.28	2.79	2.79	1.41
		30°C	3.77	3.77	0.93	3.66	3.66	1.01	3.55	3.55	1.10	3.43	3.43	1.19	3.18	3.18	1.29	2.97	2.97	1.43
	19°C	24°C	3.87	2.44	0.94	3.73	2.38	1.01	3.59	2.32	1.10	3.44	2.26	1.19	3.16	2.10	1.29	2.92	1.98	1.42
		27°C	3.88	2.82	0.94	3.74	2.76	1.01	3.60	2.69	1.10	3.46	2.63	1.19	3.18	2.46	1.29	2.93	2.33	1.42
		30°C	3.92	3.47	0.94	3.78	3.40	1.02	3.64	3.32	1.10	3.50	3.24	1.19	3.22	3.02	1.30	2.99	2.85	1.43
		33°C	4.00	4.00	0.94	3.88	3.88	1.02	3.76	3.76	1.11	3.64	3.64	1.20	3.37	3.37	1.31	3.15	3.15	1.44
	22°C	27°C	4.25	2.39	0.95	4.10	2.33	1.03	3.94	2.28	1.12	3.79	2.22	1.21	3.48	2.07	1.32	3.21	1.95	1.45
		30°C	4.26	2.94	0.95	4.11	2.89	1.03	3.95	2.82	1.12	3.79	2.76	1.22	3.48	2.58	1.32	3.22	2.45	1.45
		33°C	4.27	3.45	0.96	4.12	3.39	1.04	3.97	3.32	1.12	3.82	3.24	1.22	3.51	3.04	1.32	3.25	2.89	1.45
		36°C	4.31	3.89	0.96	4.18	3.82	1.04	4.03	3.74	1.13	3.89	3.65	1.22	3.59	3.40	1.33	3.35	3.20	1.46

Model: MWM15JR - MLC15CR
Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	1.684	1.684	2.074	2.074	2.204	2.204	3.634	3.634	4.414	4.414	4.804	4.804	5.194	5.194
17	1.650	1.650	2.034	2.034	2.162	2.162	3.632	3.632	4.294	4.294	4.670	4.670	5.046	5.046
19	1.616	1.616	1.995	1.995	2.121	2.121	3.630	3.630	4.174	4.174	4.536	4.536	4.899	4.899
21	1.582	1.582	1.955	1.955	2.080	2.080	3.629	3.629	4.054	4.054	4.403	4.403	4.751	4.751
23	1.571	1.571	1.922	1.922	2.039	2.039	3.441	3.441	3.934	3.934	4.269	4.269	4.603	4.603
25	1.560	1.560	1.888	1.888	1.997	1.997	3.254	3.254	3.814	3.814	4.135	4.135	4.456	4.456
27	1.549	1.549	1.854	1.854	1.956	1.956	3.067	3.067	3.694	3.694	4.001	4.001	4.308	4.308
	FROST REGION													

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: MWM20JR - MLC020CR
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
424	16°C	21°C	5.39	3.66	1.41	5.20	3.57	1.52	5.01	3.47	1.65	4.80	3.37	1.79	4.41	3.14	1.94	4.07	2.95	2.14
		24°C	5.40	4.38	1.41	5.20	4.28	1.52	5.01	4.18	1.65	4.81	4.08	1.79	4.42	3.81	1.94	4.09	3.60	2.14
		27°C	5.44	4.97	1.41	5.26	4.86	1.52	5.07	4.74	1.65	4.88	4.62	1.79	4.50	4.30	1.94	4.19	4.04	2.14
		30°C	5.61	5.61	1.41	5.45	5.45	1.53	5.28	5.28	1.66	5.11	5.11	1.80	4.74	4.74	1.96	4.43	4.43	2.16
	19°C	24°C	5.94	3.42	1.43	5.74	3.33	1.55	5.53	3.24	1.67	5.31	3.15	1.82	4.88	2.93	1.97	4.51	2.76	2.17
		27°C	5.95	3.91	1.43	5.74	3.82	1.55	5.53	3.74	1.68	5.31	3.64	1.82	4.88	3.41	1.97	4.51	3.23	2.17
		30°C	5.96	4.83	1.43	5.75	4.72	1.55	5.55	4.62	1.68	5.34	4.51	1.82	4.91	4.22	1.97	4.56	3.99	2.18
		33°C	6.03	6.03	1.43	5.83	5.83	1.55	5.64	5.64	1.68	5.45	5.45	1.83	5.04	5.04	1.98	4.71	4.71	2.19
	22°C	27°C	6.54	3.35	1.45	6.31	3.26	1.58	6.08	3.18	1.71	5.85	3.10	1.85	5.38	2.88	2.01	4.98	2.72	2.21
		30°C	6.54	4.08	1.45	6.32	3.99	1.58	6.08	3.90	1.71	5.85	3.81	1.85	5.38	3.56	2.01	4.98	3.38	2.21
		33°C	6.55	4.76	1.45	6.32	4.67	1.58	6.09	4.58	1.71	5.85	4.48	1.85	5.38	4.21	2.01	4.99	4.00	2.22
		36°C	6.57	5.40	1.46	6.35	5.29	1.58	6.13	5.18	1.71	5.91	5.07	1.86	5.45	4.75	2.01	5.06	4.51	2.22
478	16°C	21°C	5.61	3.82	1.42	5.40	3.72	1.53	5.20	3.62	1.66	4.99	3.52	1.80	4.58	3.28	1.95	4.22	3.08	2.15
		24°C	5.62	4.63	1.42	5.42	4.53	1.53	5.22	4.42	1.66	5.01	4.31	1.80	4.60	4.02	1.96	4.25	3.79	2.16
		27°C	5.69	5.26	1.42	5.50	5.14	1.54	5.31	5.01	1.67	5.12	4.86	1.81	4.73	4.51	1.96	4.40	4.22	2.17
		30°C	5.93	5.93	1.43	5.76	5.76	1.55	5.58	5.58	1.68	5.40	5.40	1.83	5.00	5.00	1.98	4.68	4.68	2.19
	19°C	24°C	6.18	3.61	1.44	5.96	3.52	1.56	5.73	3.43	1.69	5.50	3.33	1.83	5.05	3.11	1.99	4.67	2.93	2.19
		27°C	6.19	4.16	1.44	5.97	4.07	1.56	5.74	3.98	1.69	5.51	3.88	1.83	5.07	3.63	1.99	4.68	3.44	2.19
		30°C	6.22	5.13	1.44	6.00	5.02	1.56	5.79	4.91	1.69	5.56	4.79	1.84	5.12	4.48	1.99	4.75	4.23	2.20
		33°C	6.32	6.32	1.45	6.13	6.13	1.57	5.93	5.93	1.70	5.74	5.74	1.85	5.31	5.31	2.01	4.97	4.97	2.22
	22°C	27°C	6.79	3.54	1.47	6.55	3.45	1.59	6.30	3.37	1.72	6.05	3.27	1.87	5.56	3.05	2.03	5.15	2.88	2.23
		30°C	6.80	4.34	1.47	6.56	4.25	1.59	6.31	4.15	1.72	6.06	4.06	1.87	5.57	3.80	2.03	5.15	3.61	2.23
		33°C	6.81	5.08	1.47	6.57	4.99	1.59	6.33	4.89	1.73	6.08	4.78	1.87	5.59	4.49	2.03	5.19	4.26	2.24
		36°C	6.85	5.75	1.47	6.63	5.64	1.60	6.40	5.52	1.73	6.16	5.39	1.88	5.69	5.05	2.04	5.30	4.76	2.25
536	16°C	21°C	5.81	3.98	1.43	5.60	3.88	1.55	5.39	3.78	1.67	5.16	3.67	1.82	4.74	3.42	1.97	4.36	3.22	2.17
		24°C	5.84	4.84	1.43	5.63	4.73	1.55	5.42	4.61	1.68	5.20	4.49	1.82	4.78	4.19	1.97	4.41	3.95	2.17
		27°C	5.94	5.55	1.44	5.74	5.40	1.55	5.55	5.25	1.68	5.35	5.09	1.83	4.95	4.72	1.98	4.61	4.40	2.19
		30°C	6.24	6.24	1.45	6.05	6.05	1.57	5.87	5.87	1.70	5.67	5.67	1.85	5.25	5.25	2.01	4.91	4.91	2.22
	19°C	24°C	6.40	3.82	1.45	6.17	3.73	1.57	5.93	3.63	1.70	5.69	3.53	1.85	5.22	3.29	2.00	4.82	3.11	2.21
		27°C	6.42	4.42	1.45	6.19	4.32	1.57	5.96	4.22	1.71	5.72	4.12	1.85	5.25	3.85	2.01	4.85	3.64	2.21
		30°C	6.47	5.44	1.46	6.24	5.32	1.58	6.02	5.20	1.71	5.79	5.07	1.85	5.33	4.73	2.01	4.95	4.46	2.22
		33°C	6.61	6.61	1.46	6.42	6.42	1.59	6.22	6.22	1.72	6.02	6.02	1.87	5.57	5.57	2.03	5.21	5.21	2.24
	22°C	27°C	7.02	3.74	1.48	6.77	3.66	1.60	6.52	3.56	1.74	6.26	3.47	1.89	5.75	3.24	2.04	5.31	3.06	2.25
		30°C	7.04	4.61	1.48	6.79	4.52	1.60	6.53	4.42	1.74	6.27	4.32	1.89	5.76	4.05	2.05	5.33	3.84	2.25
		33°C	7.06	5.40	1.48	6.82	5.31	1.61	6.57	5.19	1.74	6.31	5.08	1.89	5.80	4.76	2.05	5.38	4.52	2.26
		36°C	7.12	6.10	1.49	6.90	5.99	1.61	6.66	5.86	1.75	6.42	5.71	1.90	5.93	5.33	2.06	5.54	5.01	2.27

Model: MWM20JR - MLC020CR
Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	2.446	2.446	3.074	3.074	3.284	3.284	5.590	5.590	6.847	6.847	7.476	7.476	8.105	8.105
17	2.381	2.381	3.011	3.011	3.221	3.221	5.541	5.541	6.661	6.661	7.268	7.268	7.874	7.874
19	2.316	2.316	2.948	2.948	3.158	3.158	5.492	5.492	6.474	6.474	7.059	7.059	7.644	7.644
21	2.252	2.252	2.884	2.884	3.095	3.095	5.443	5.443	6.287	6.287	6.850	6.850	7.413	7.413
23	2.250	2.250	2.837	2.837	3.032	3.032	5.201	5.201	6.100	6.100	6.642	6.642	7.183	7.183
25	2.249	2.249	2.789	2.789	2.969	2.969	4.959	4.959	5.913	5.913	6.433	6.433	6.952	6.952
27	2.248	2.248	2.742	2.742	2.906	2.906	4.716	4.716	5.727	5.727	6.224	6.224	6.722	6.722
	FROST REGION													

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: MWM25JR - MLC025CR
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
474	16°C	21°C	6.49	4.59	1.88	6.26	4.47	2.04	6.03	4.35	2.21	5.79	4.23	2.39	5.32	3.94	2.60	4.91	3.70	2.86
		24°C	6.50	5.50	1.88	6.27	5.38	2.04	6.04	5.25	2.21	5.80	5.12	2.39	5.33	4.78	2.60	4.93	4.51	2.86
		27°C	6.55	6.24	1.89	6.34	6.10	2.04	6.11	5.95	2.21	5.88	5.80	2.40	5.43	5.40	2.60	5.05	5.05	2.87
		30°C	6.76	6.76	1.90	6.56	6.56	2.05	6.36	6.36	2.23	6.16	6.16	2.42	5.71	5.71	2.63	5.34	5.34	2.90
	19°C	24°C	7.16	4.29	1.91	6.91	4.18	2.07	6.66	4.07	2.25	6.39	3.95	2.43	5.88	3.68	2.64	5.43	3.47	2.91
		27°C	7.17	4.91	1.91	6.92	4.80	2.07	6.66	4.69	2.25	6.40	4.57	2.44	5.88	4.28	2.64	5.44	4.05	2.91
		30°C	7.18	6.06	1.91	6.93	5.93	2.07	6.69	5.80	2.25	6.43	5.66	2.44	5.92	5.29	2.65	5.49	5.01	2.92
		33°C	7.26	7.26	1.92	7.03	7.03	2.08	6.80	6.80	2.25	6.57	6.57	2.45	6.08	6.08	2.66	5.68	5.68	2.94
	22°C	27°C	7.88	4.20	1.95	7.61	4.10	2.11	7.33	3.99	2.29	7.04	3.88	2.48	6.48	3.62	2.69	6.00	3.41	2.97
		30°C	7.88	5.12	1.95	7.61	5.01	2.11	7.33	4.89	2.29	7.05	4.78	2.48	6.48	4.47	2.69	6.00	4.24	2.97
		33°C	7.89	5.98	1.95	7.61	5.86	2.11	7.34	5.75	2.29	7.05	5.63	2.48	6.49	5.28	2.69	6.01	5.02	2.97
		36°C	7.91	6.78	1.95	7.65	6.64	2.11	7.39	6.50	2.29	7.12	6.36	2.49	6.56	5.96	2.70	6.10	5.66	2.98
537	16°C	21°C	6.76	4.79	1.90	6.51	4.67	2.06	6.27	4.54	2.23	6.01	4.42	2.41	5.51	4.11	2.62	5.09	3.87	2.89
		24°C	6.78	5.82	1.90	6.53	5.68	2.06	6.29	5.54	2.23	6.03	5.40	2.42	5.54	5.04	2.62	5.12	4.76	2.89
		27°C	6.86	6.61	1.91	6.63	6.45	2.06	6.40	6.29	2.24	6.17	6.10	2.43	5.70	5.66	2.63	5.31	5.30	2.91
		30°C	7.14	7.14	1.92	6.94	6.94	2.08	6.73	6.73	2.26	6.51	6.51	2.45	6.03	6.03	2.66	5.64	5.64	2.94
	19°C	24°C	7.44	4.53	1.93	7.18	4.42	2.09	6.91	4.30	2.27	6.63	4.19	2.46	6.09	3.90	2.66	5.63	3.68	2.94
		27°C	7.46	5.22	1.93	7.19	5.11	2.09	6.92	4.99	2.27	6.64	4.87	2.46	6.10	4.55	2.67	5.64	4.31	2.94
		30°C	7.49	6.44	1.94	7.23	6.30	2.10	6.97	6.16	2.27	6.71	6.01	2.46	6.17	5.62	2.67	5.73	5.31	2.95
		33°C	7.62	7.62	1.94	7.38	7.38	2.10	7.15	7.15	2.28	6.91	6.91	2.48	6.40	6.40	2.69	5.99	5.99	2.97
	22°C	27°C	8.18	4.44	1.97	7.89	4.33	2.13	7.60	4.22	2.31	7.30	4.11	2.51	6.70	3.83	2.72	6.20	3.62	2.99
		30°C	8.19	5.45	1.97	7.90	5.33	2.13	7.61	5.21	2.31	7.30	5.09	2.51	6.71	4.77	2.72	6.21	4.53	2.99
		33°C	8.20	6.38	1.97	7.92	6.26	2.13	7.63	6.13	2.31	7.33	6.00	2.51	6.74	5.63	2.72	6.25	5.34	3.00
		36°C	8.25	7.21	1.97	7.99	7.08	2.14	7.71	6.93	2.32	7.43	6.77	2.52	6.85	6.33	2.73	6.39	5.98	3.01
616	16°C	21°C	7.01	5.00	1.92	6.75	4.87	2.07	6.49	4.74	2.24	6.22	4.61	2.43	5.71	4.29	2.64	5.26	4.04	2.91
		24°C	7.04	6.08	1.92	6.79	5.93	2.08	6.53	5.79	2.25	6.27	5.63	2.44	5.76	5.26	2.64	5.32	4.96	2.91
		27°C	7.16	6.96	1.92	6.92	6.78	2.08	6.69	6.59	2.26	6.45	6.39	2.45	5.96	5.92	2.66	5.55	5.53	2.94
		30°C	7.51	7.51	1.94	7.29	7.29	2.10	7.07	7.07	2.28	6.84	6.84	2.48	6.33	6.33	2.69	5.91	5.91	2.97
	19°C	24°C	7.71	4.80	1.95	7.43	4.68	2.11	7.15	4.56	2.28	6.86	4.43	2.48	6.29	4.13	2.69	5.81	3.90	2.96
		27°C	7.73	5.55	1.95	7.46	5.42	2.11	7.18	5.29	2.29	6.89	5.17	2.48	6.32	4.83	2.69	5.84	4.57	2.96
		30°C	7.80	6.83	1.95	7.52	6.68	2.12	7.25	6.53	2.29	6.98	6.36	2.49	6.42	5.94	2.70	5.96	5.60	2.97
		33°C	7.97	7.97	1.96	7.73	7.73	2.13	7.50	7.50	2.31	7.25	7.25	2.51	6.72	6.72	2.72	6.28	6.28	3.01
	22°C	27°C	8.46	4.69	1.99	8.16	4.59	2.15	7.85	4.47	2.33	7.54	4.36	2.53	6.92	4.06	2.74	6.40	3.84	3.02
		30°C	8.48	5.78	1.99	8.18	5.67	2.15	7.87	5.55	2.33	7.55	5.42	2.53	6.94	5.08	2.74	6.42	4.82	3.02
		33°C	8.51	6.78	1.99	8.21	6.66	2.15	7.91	6.52	2.34	7.60	6.38	2.53	6.99	5.98	2.75	6.48	5.67	3.03
		36°C	8.58	7.65	1.99	8.32	7.51	2.16	8.03	7.35	2.34	7.74	7.17	2.54	7.15	6.68	2.76	6.67	6.29	3.05

Model: MWM25JR - MLC025CR
Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	3.926	3.926	4.540	4.540	4.745	4.745	6.995	6.995	8.223	8.223	8.836	8.836	9.450	9.450
17	3.920	3.920	4.477	4.477	4.662	4.662	6.989	6.989	8.003	8.003	8.592	8.592	9.182	9.182
19	3.914	3.914	4.414	4.414	4.580	4.580	6.984	6.984	7.783	7.783	8.348	8.348	8.913	8.913
21	3.908	3.908	4.351	4.351	4.498	4.498	6.978	6.978	7.563	7.563	8.104	8.104	8.645	8.645
23	3.812	3.812	4.265	4.265	4.416	4.416	6.633	6.633	7.343	7.343	7.859	7.859	8.376	8.376
25	3.717	3.717	4.180	4.180	4.334	4.334	6.287	6.287	7.123	7.123	7.615	7.615	8.107	8.107
27	3.622	3.622	4.095	4.095	4.252	4.252	5.941	5.941	6.903	6.903	7.371	7.371	7.839	7.839
	FROST REGION													

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Cooling Only (R410A)

Model: M5WM10J - M5LC10CJ
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
222	16°C	21°C	2.50	1.93	0.63	2.41	1.88	0.68	2.32	1.83	0.73	2.23	1.78	0.80	2.04	1.65	0.86	1.89	1.56	0.95
		24°C	2.50	2.31	0.63	2.41	2.26	0.68	2.32	2.21	0.73	2.23	2.15	0.80	2.05	2.01	0.86	1.90	1.90	0.95
		27°C	2.52	2.52	0.63	2.44	2.44	0.68	2.35	2.35	0.74	2.26	2.26	0.80	2.09	2.09	0.87	1.94	1.94	0.96
		30°C	2.60	2.60	0.63	2.52	2.52	0.68	2.45	2.45	0.74	2.37	2.37	0.80	2.20	2.20	0.87	2.05	2.05	0.97
	19°C	24°C	2.76	1.80	0.64	2.66	1.76	0.69	2.56	1.71	0.75	2.46	1.66	0.81	2.26	1.55	0.88	2.09	1.46	0.97
		27°C	2.76	2.06	0.64	2.66	2.02	0.69	2.56	1.97	0.75	2.46	1.92	0.81	2.26	1.80	0.88	2.09	1.70	0.97
		30°C	2.76	2.55	0.64	2.67	2.49	0.69	2.57	2.44	0.75	2.47	2.38	0.81	2.28	2.22	0.88	2.11	2.10	0.97
		33°C	2.79	2.79	0.64	2.70	2.70	0.69	2.62	2.62	0.75	2.53	2.53	0.81	2.34	2.34	0.88	2.19	2.19	0.98
	22°C	27°C	3.03	1.77	0.65	2.93	1.72	0.70	2.82	1.68	0.76	2.71	1.63	0.83	2.49	1.52	0.90	2.31	1.43	0.99
		30°C	3.03	2.15	0.65	2.93	2.11	0.70	2.82	2.06	0.76	2.71	2.01	0.83	2.49	1.88	0.90	2.31	1.78	0.99
		33°C	3.03	2.51	0.65	2.93	2.46	0.70	2.82	2.42	0.76	2.71	2.37	0.83	2.50	2.22	0.90	2.31	2.11	0.99
		36°C	3.04	2.85	0.65	2.94	2.79	0.70	2.84	2.73	0.76	2.74	2.67	0.83	2.52	2.51	0.90	2.35	2.35	0.99
279	16°C	21°C	2.60	2.02	0.63	2.51	1.96	0.68	2.41	1.91	0.74	2.31	1.86	0.80	2.12	1.73	0.87	1.96	1.63	0.96
		24°C	2.61	2.45	0.63	2.51	2.39	0.68	2.42	2.33	0.74	2.32	2.27	0.80	2.13	2.12	0.87	1.97	1.97	0.96
		27°C	2.64	2.64	0.63	2.55	2.55	0.69	2.46	2.46	0.74	2.37	2.37	0.81	2.19	2.19	0.88	2.04	2.04	0.97
		30°C	2.75	2.75	0.64	2.67	2.67	0.69	2.59	2.59	0.75	2.50	2.50	0.81	2.32	2.32	0.88	2.17	2.17	0.98
	19°C	24°C	2.86	1.91	0.64	2.76	1.86	0.70	2.66	1.81	0.75	2.55	1.76	0.82	2.34	1.64	0.89	2.16	1.55	0.98
		27°C	2.87	2.20	0.64	2.77	2.15	0.70	2.66	2.10	0.75	2.56	2.05	0.82	2.35	1.92	0.89	2.17	1.81	0.98
		30°C	2.88	2.71	0.64	2.78	2.65	0.70	2.68	2.59	0.76	2.58	2.53	0.82	2.38	2.36	0.89	2.20	2.20	0.98
		33°C	2.93	2.93	0.65	2.84	2.84	0.70	2.75	2.75	0.76	2.66	2.66	0.82	2.46	2.46	0.90	2.30	2.30	0.99
	22°C	27°C	3.15	1.87	0.65	3.04	1.82	0.71	2.92	1.78	0.77	2.81	1.73	0.83	2.58	1.61	0.90	2.39	1.52	1.00
		30°C	3.15	2.29	0.65	3.04	2.24	0.71	2.93	2.19	0.77	2.81	2.14	0.83	2.58	2.01	0.90	2.39	1.90	1.00
		33°C	3.16	2.68	0.66	3.05	2.63	0.71	2.93	2.58	0.77	2.82	2.52	0.83	2.59	2.37	0.91	2.40	2.25	1.00
		36°C	3.18	3.03	0.66	3.07	2.98	0.71	2.97	2.92	0.77	2.86	2.85	0.84	2.64	2.64	0.91	2.46	2.46	1.00
335	16°C	21°C	2.70	2.10	0.64	2.60	2.05	0.69	2.50	2.00	0.75	2.39	1.94	0.81	2.20	1.81	0.88	2.02	1.70	0.97
		24°C	2.71	2.56	0.64	2.61	2.50	0.69	2.51	2.43	0.75	2.41	2.37	0.81	2.22	2.21	0.88	2.05	2.05	0.97
		27°C	2.75	2.75	0.64	2.66	2.66	0.69	2.57	2.57	0.75	2.48	2.48	0.81	2.29	2.29	0.88	2.14	2.14	0.98
		30°C	2.89	2.89	0.65	2.81	2.81	0.70	2.72	2.72	0.76	2.63	2.63	0.82	2.44	2.44	0.90	2.28	2.28	0.99
	19°C	24°C	2.97	2.02	0.65	2.86	1.97	0.70	2.75	1.92	0.76	2.64	1.87	0.82	2.42	1.74	0.89	2.24	1.64	0.98
		27°C	2.98	2.33	0.65	2.87	2.28	0.70	2.76	2.23	0.76	2.65	2.17	0.83	2.43	2.03	0.89	2.25	1.92	0.99
		30°C	3.00	2.87	0.65	2.89	2.81	0.70	2.79	2.75	0.76	2.68	2.68	0.83	2.47	2.47	0.90	2.29	2.29	0.99
		33°C	3.07	3.07	0.65	2.98	2.98	0.71	2.88	2.88	0.77	2.79	2.79	0.83	2.58	2.58	0.91	2.42	2.42	1.00
	22°C	27°C	3.26	1.97	0.66	3.14	1.93	0.72	3.02	1.88	0.78	2.90	1.83	0.84	2.66	1.71	0.91	2.46	1.61	1.00
		30°C	3.26	2.43	0.66	3.15	2.39	0.72	3.03	2.34	0.78	2.91	2.28	0.84	2.67	2.14	0.91	2.47	2.03	1.00
		33°C	3.27	2.85	0.66	3.16	2.80	0.72	3.04	2.74	0.78	2.93	2.68	0.84	2.69	2.51	0.91	2.49	2.39	1.01
		36°C	3.30	3.22	0.66	3.20	3.16	0.72	3.09	3.09	0.78	2.98	2.98	0.85	2.75	2.75	0.92	2.57	2.57	1.01

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: M5WM15J - M5LC15CJ
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
240	16°C	21°C	2.97	2.18	0.83	2.86	2.13	0.90	2.76	2.07	0.97	2.65	2.01	1.06	2.43	1.87	1.15	2.24	1.76	1.26
		24°C	2.97	2.62	0.83	2.87	2.56	0.90	2.76	2.50	0.97	2.65	2.43	1.06	2.44	2.27	1.15	2.25	2.15	1.26
		27°C	3.00	2.97	0.83	2.90	2.90	0.90	2.80	2.80	0.98	2.69	2.69	1.06	2.48	2.48	1.15	2.31	2.31	1.27
		30°C	3.09	3.09	0.84	3.00	3.00	0.91	2.91	2.91	0.98	2.82	2.82	1.07	2.61	2.61	1.16	2.44	2.44	1.28
	19°C	24°C	3.28	2.04	0.84	3.16	1.99	0.91	3.04	1.94	0.99	2.92	1.88	1.07	2.69	1.75	1.17	2.48	1.65	1.28
		27°C	3.28	2.33	0.84	3.16	2.28	0.91	3.05	2.23	0.99	2.93	2.17	1.07	2.69	2.03	1.17	2.49	1.93	1.28
		30°C	3.28	2.88	0.84	3.17	2.82	0.91	3.06	2.76	0.99	2.94	2.69	1.08	2.71	2.52	1.17	2.51	2.38	1.29
		33°C	3.32	3.32	0.85	3.21	3.21	0.92	3.11	3.11	0.99	3.00	3.00	1.08	2.78	2.78	1.17	2.60	2.60	1.29
	22°C	27°C	3.60	2.00	0.86	3.48	1.95	0.93	3.35	1.90	1.01	3.22	1.85	1.10	2.96	1.72	1.19	2.74	1.62	1.31
		30°C	3.60	2.43	0.86	3.48	2.38	0.93	3.35	2.33	1.01	3.22	2.27	1.10	2.96	2.13	1.19	2.74	2.02	1.31
		33°C	3.61	2.84	0.86	3.48	2.79	0.93	3.35	2.73	1.01	3.22	2.68	1.10	2.97	2.51	1.19	2.75	2.39	1.31
		36°C	3.62	3.22	0.86	3.50	3.16	0.93	3.38	3.09	1.01	3.25	3.02	1.10	3.00	2.83	1.19	2.79	2.69	1.31
293	16°C	21°C	3.09	2.28	0.84	2.98	2.22	0.91	2.87	2.16	0.98	2.75	2.10	1.06	2.52	1.96	1.16	2.33	1.84	1.27
		24°C	3.10	2.77	0.84	2.99	2.70	0.91	2.88	2.64	0.98	2.76	2.57	1.07	2.54	2.40	1.16	2.34	2.26	1.27
		27°C	3.14	3.14	0.84	3.03	3.03	0.91	2.93	2.93	0.99	2.82	2.82	1.07	2.61	2.61	1.16	2.43	2.43	1.28
		30°C	3.27	3.27	0.85	3.17	3.17	0.92	3.08	3.08	0.99	2.98	2.98	1.08	2.76	2.76	1.17	2.58	2.58	1.30
	19°C	24°C	3.40	2.16	0.85	3.28	2.10	0.92	3.16	2.05	1.00	3.03	1.99	1.08	2.79	1.86	1.18	2.57	1.75	1.30
		27°C	3.41	2.48	0.85	3.29	2.43	0.92	3.17	2.37	1.00	3.04	2.32	1.08	2.79	2.17	1.18	2.58	2.05	1.30
		30°C	3.43	3.06	0.85	3.31	3.00	0.92	3.19	2.93	1.00	3.07	2.86	1.09	2.82	2.67	1.18	2.62	2.53	1.30
		33°C	3.48	3.48	0.86	3.38	3.38	0.93	3.27	3.27	1.01	3.16	3.16	1.09	2.93	2.93	1.19	2.74	2.74	1.31
	22°C	27°C	3.74	2.11	0.87	3.61	2.06	0.94	3.47	2.01	1.02	3.34	1.96	1.11	3.07	1.82	1.20	2.84	1.72	1.32
		30°C	3.75	2.59	0.87	3.61	2.54	0.94	3.48	2.48	1.02	3.34	2.42	1.11	3.07	2.27	1.20	2.84	2.15	1.32
		33°C	3.75	3.04	0.87	3.62	2.98	0.94	3.49	2.92	1.02	3.35	2.85	1.11	3.08	2.68	1.20	2.86	2.54	1.32
		36°C	3.77	3.43	0.87	3.65	3.37	0.94	3.53	3.30	1.02	3.40	3.22	1.11	3.13	3.01	1.20	2.92	2.84	1.33
346	16°C	21°C	3.20	2.38	0.85	3.09	2.32	0.91	2.97	2.26	0.99	2.85	2.19	1.07	2.61	2.04	1.16	2.41	1.92	1.28
		24°C	3.22	2.89	0.85	3.10	2.82	0.92	2.99	2.75	0.99	2.87	2.68	1.08	2.63	2.50	1.17	2.43	2.36	1.29
		27°C	3.27	3.27	0.85	3.17	3.17	0.92	3.06	3.06	1.00	2.95	2.95	1.08	2.73	2.73	1.17	2.54	2.54	1.29
		30°C	3.44	3.44	0.86	3.34	3.34	0.93	3.23	3.23	1.01	3.13	3.13	1.09	2.90	2.90	1.19	2.70	2.70	1.31
	19°C	24°C	3.53	2.28	0.86	3.40	2.22	0.93	3.27	2.17	1.01	3.14	2.11	1.09	2.88	1.97	1.19	2.66	1.85	1.31
		27°C	3.54	2.64	0.86	3.41	2.58	0.93	3.28	2.52	1.01	3.15	2.46	1.09	2.89	2.30	1.19	2.67	2.17	1.31
		30°C	3.57	3.25	0.86	3.44	3.18	0.93	3.32	3.10	1.01	3.19	3.03	1.10	2.94	2.83	1.19	2.73	2.66	1.31
		33°C	3.64	3.64	0.87	3.54	3.54	0.94	3.43	3.43	1.02	3.32	3.32	1.11	3.07	3.07	1.20	2.87	2.87	1.33
	22°C	27°C	3.87	2.23	0.88	3.73	2.18	0.95	3.59	2.13	1.03	3.45	2.07	1.11	3.17	1.93	1.21	2.93	1.83	1.33
		30°C	3.88	2.75	0.88	3.74	2.70	0.95	3.60	2.64	1.03	3.46	2.58	1.12	3.17	2.42	1.21	2.94	2.29	1.33
		33°C	3.89	3.22	0.88	3.76	3.17	0.95	3.62	3.10	1.03	3.48	3.03	1.12	3.20	2.84	1.21	2.96	2.70	1.33
		36°C	3.93	3.64	0.88	3.80	3.57	0.95	3.67	3.50	1.03	3.54	3.41	1.12	3.27	3.18	1.22	3.05	2.99	1.34

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Heat Pump (R410A)

Model: M5WM10JR - M5LC10CRJ
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
222	16°C	21°C	2.50	1.93	0.61	2.41	1.88	0.66	2.32	1.83	0.71	2.23	1.78	0.77	2.04	1.65	0.84	1.89	1.56	0.93
		24°C	2.50	2.31	0.61	2.41	2.26	0.66	2.32	2.21	0.71	2.23	2.15	0.77	2.05	2.01	0.84	1.90	1.90	0.93
		27°C	2.52	2.52	0.61	2.44	2.44	0.66	2.35	2.35	0.72	2.26	2.26	0.78	2.09	2.09	0.84	1.94	1.94	0.93
		30°C	2.60	2.60	0.61	2.52	2.52	0.66	2.45	2.45	0.72	2.37	2.37	0.78	2.20	2.20	0.85	2.05	2.05	0.94
	19°C	24°C	2.76	1.80	0.62	2.66	1.76	0.67	2.56	1.71	0.73	2.46	1.66	0.79	2.26	1.55	0.85	2.09	1.46	0.94
		27°C	2.76	2.06	0.62	2.66	2.02	0.67	2.56	1.97	0.73	2.46	1.92	0.79	2.26	1.80	0.85	2.09	1.70	0.94
		30°C	2.76	2.55	0.62	2.67	2.49	0.67	2.57	2.44	0.73	2.47	2.38	0.79	2.28	2.22	0.86	2.11	2.10	0.94
		33°C	2.79	2.79	0.62	2.70	2.70	0.67	2.62	2.62	0.73	2.53	2.53	0.79	2.34	2.34	0.86	2.19	2.19	0.95
	22°C	27°C	3.03	1.77	0.63	2.93	1.72	0.68	2.82	1.68	0.74	2.71	1.63	0.80	2.49	1.52	0.87	2.31	1.43	0.96
		30°C	3.03	2.15	0.63	2.93	2.11	0.68	2.82	2.06	0.74	2.71	2.01	0.80	2.49	1.88	0.87	2.31	1.78	0.96
		33°C	3.03	2.51	0.63	2.93	2.46	0.68	2.82	2.42	0.74	2.71	2.37	0.80	2.50	2.22	0.87	2.31	2.11	0.96
		36°C	3.04	2.85	0.63	2.94	2.79	0.68	2.84	2.73	0.74	2.74	2.67	0.80	2.52	2.51	0.87	2.35	2.35	0.96
279	16°C	21°C	2.60	2.02	0.61	2.51	1.96	0.66	2.41	1.91	0.72	2.31	1.86	0.78	2.12	1.73	0.85	1.96	1.63	0.93
		24°C	2.61	2.45	0.62	2.51	2.39	0.67	2.42	2.33	0.72	2.32	2.27	0.78	2.13	2.12	0.85	1.97	1.97	0.93
		27°C	2.64	2.64	0.62	2.55	2.55	0.67	2.46	2.46	0.72	2.37	2.37	0.78	2.19	2.19	0.85	2.04	2.04	0.94
		30°C	2.75	2.75	0.62	2.67	2.67	0.67	2.59	2.59	0.73	2.50	2.50	0.79	2.32	2.32	0.86	2.17	2.17	0.95
	19°C	24°C	2.86	1.91	0.62	2.76	1.86	0.68	2.66	1.81	0.73	2.55	1.76	0.79	2.34	1.64	0.86	2.16	1.55	0.95
		27°C	2.87	2.20	0.63	2.77	2.15	0.68	2.66	2.10	0.73	2.56	2.05	0.79	2.35	1.92	0.86	2.17	1.81	0.95
		30°C	2.88	2.71	0.63	2.78	2.65	0.68	2.68	2.59	0.73	2.58	2.53	0.80	2.38	2.36	0.86	2.20	2.20	0.95
		33°C	2.93	2.93	0.63	2.84	2.84	0.68	2.75	2.75	0.74	2.66	2.66	0.80	2.46	2.46	0.87	2.30	2.30	0.96
	22°C	27°C	3.15	1.87	0.64	3.04	1.82	0.69	2.92	1.78	0.75	2.81	1.73	0.81	2.58	1.61	0.88	2.39	1.52	0.97
		30°C	3.15	2.29	0.64	3.04	2.24	0.69	2.93	2.19	0.75	2.81	2.14	0.81	2.58	2.01	0.88	2.39	1.90	0.97
		33°C	3.16	2.68	0.64	3.05	2.63	0.69	2.93	2.58	0.75	2.82	2.52	0.81	2.59	2.37	0.88	2.40	2.25	0.97
		36°C	3.18	3.03	0.64	3.07	2.98	0.69	2.97	2.92	0.75	2.86	2.85	0.81	2.64	2.64	0.88	2.46	2.46	0.97
335	16°C	21°C	2.70	2.10	0.62	2.60	2.05	0.67	2.50	2.00	0.73	2.39	1.94	0.79	2.20	1.81	0.85	2.02	1.70	0.94
		24°C	2.71	2.56	0.62	2.61	2.50	0.67	2.51	2.43	0.73	2.41	2.37	0.79	2.22	2.21	0.85	2.05	2.05	0.94
		27°C	2.75	2.75	0.62	2.66	2.66	0.67	2.57	2.57	0.73	2.48	2.48	0.79	2.29	2.29	0.86	2.14	2.14	0.95
		30°C	2.89	2.89	0.63	2.81	2.81	0.68	2.72	2.72	0.74	2.63	2.63	0.80	2.44	2.44	0.87	2.28	2.28	0.96
	19°C	24°C	2.97	2.02	0.63	2.86	1.97	0.68	2.75	1.92	0.74	2.64	1.87	0.80	2.42	1.74	0.87	2.24	1.64	0.96
		27°C	2.98	2.33	0.63	2.87	2.28	0.68	2.76	2.23	0.74	2.65	2.17	0.80	2.43	2.03	0.87	2.25	1.92	0.96
		30°C	3.00	2.87	0.63	2.89	2.81	0.68	2.79	2.75	0.74	2.68	2.68	0.80	2.47	2.47	0.87	2.29	2.29	0.96
		33°C	3.07	3.07	0.63	2.98	2.98	0.69	2.88	2.88	0.75	2.79	2.79	0.81	2.58	2.58	0.88	2.42	2.42	0.97
	22°C	27°C	3.26	1.97	0.64	3.14	1.93	0.70	3.02	1.88	0.75	2.90	1.83	0.82	2.66	1.71	0.89	2.46	1.61	0.98
		30°C	3.26	2.43	0.64	3.15	2.39	0.70	3.03	2.34	0.75	2.91	2.28	0.82	2.67	2.14	0.89	2.47	2.03	0.98
		33°C	3.27	2.85	0.64	3.16	2.80	0.70	3.04	2.74	0.76	2.93	2.68	0.82	2.69	2.51	0.89	2.49	2.39	0.98
		36°C	3.30	3.22	0.64	3.20	3.16	0.70	3.09	3.09	0.76	2.98	2.98	0.82	2.75	2.75	0.89	2.57	2.57	0.99

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: M5WM10JR - M5LC10CRJ
Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	1.692	1.692	1.915	1.915	1.989	1.989	2.807	2.807	3.253	3.253	3.476	3.476	3.700	3.700
17	1.648	1.648	1.850	1.850	1.944	1.944	2.804	2.804	3.201	3.201	3.423	3.423	3.645	3.645
19	1.603	1.603	1.785	1.785	1.898	1.898	2.801	2.801	3.149	3.149	3.370	3.370	3.591	3.591
21	1.559	1.559	1.737	1.737	1.852	1.852	2.757	2.757	3.097	3.097	3.317	3.317	3.536	3.536
23	1.515	1.515	1.705	1.705	1.806	1.806	2.674	2.674	3.045	3.045	3.263	3.263	3.482	3.482
25	1.470	1.470	1.674	1.674	1.760	1.760	2.591	2.591	2.993	2.993	3.210	3.210	3.428	3.428
27	1.426	1.426	1.642	1.642	1.714	1.714	2.508	2.508	2.941	2.941	3.157	3.157	3.373	3.373
	FROST REGION													

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. ▬ shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Heat Pump (R410A)

Model: M5WM15JR - M5LC15CRJ
Cooling Mode

AFR (CFM)	EWB	EDB	Outdoor temperature																	
			19°C			25°C			30°C			35°C			40°C			46°C		
			TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
240	16°C	21°C	2.97	2.18	0.83	2.86	2.13	0.90	2.76	2.07	0.97	2.65	2.01	1.06	2.43	1.87	1.15	2.24	1.76	1.26
		24°C	2.97	2.62	0.83	2.87	2.56	0.90	2.76	2.50	0.97	2.65	2.43	1.06	2.44	2.27	1.15	2.25	2.15	1.26
		27°C	3.00	2.97	0.83	2.90	2.90	0.90	2.80	2.80	0.98	2.69	2.69	1.06	2.48	2.48	1.15	2.31	2.31	1.27
		30°C	3.09	3.09	0.84	3.00	3.00	0.91	2.91	2.91	0.98	2.82	2.82	1.07	2.61	2.61	1.16	2.44	2.44	1.28
	19°C	24°C	3.28	2.04	0.84	3.16	1.99	0.91	3.04	1.94	0.99	2.92	1.88	1.07	2.69	1.75	1.17	2.48	1.65	1.28
		27°C	3.28	2.33	0.84	3.16	2.28	0.91	3.05	2.23	0.99	2.93	2.17	1.07	2.69	2.03	1.17	2.49	1.93	1.28
		30°C	3.28	2.88	0.84	3.17	2.82	0.91	3.06	2.76	0.99	2.94	2.69	1.08	2.71	2.52	1.17	2.51	2.38	1.29
		33°C	3.32	3.32	0.85	3.21	3.21	0.92	3.11	3.11	0.99	3.00	3.00	1.08	2.78	2.78	1.17	2.60	2.60	1.29
	22°C	27°C	3.60	2.00	0.86	3.48	1.95	0.93	3.35	1.90	1.01	3.22	1.85	1.10	2.96	1.72	1.19	2.74	1.62	1.31
		30°C	3.60	2.43	0.86	3.48	2.38	0.93	3.35	2.33	1.01	3.22	2.27	1.10	2.96	2.13	1.19	2.74	2.02	1.31
		33°C	3.61	2.84	0.86	3.48	2.79	0.93	3.35	2.73	1.01	3.22	2.68	1.10	2.97	2.51	1.19	2.75	2.39	1.31
		36°C	3.62	3.22	0.86	3.50	3.16	0.93	3.38	3.09	1.01	3.25	3.02	1.10	3.00	2.83	1.19	2.79	2.69	1.31
293	16°C	21°C	3.09	2.28	0.84	2.98	2.22	0.91	2.87	2.16	0.98	2.75	2.10	1.06	2.52	1.96	1.16	2.33	1.84	1.27
		24°C	3.10	2.77	0.84	2.99	2.70	0.91	2.88	2.64	0.98	2.76	2.57	1.07	2.54	2.40	1.16	2.34	2.26	1.27
		27°C	3.14	3.14	0.84	3.03	3.03	0.91	2.93	2.93	0.99	2.82	2.82	1.07	2.61	2.61	1.16	2.43	2.43	1.28
		30°C	3.27	3.27	0.85	3.17	3.17	0.92	3.08	3.08	0.99	2.98	2.98	1.08	2.76	2.76	1.17	2.58	2.58	1.30
	19°C	24°C	3.40	2.16	0.85	3.28	2.10	0.92	3.16	2.05	1.00	3.03	1.99	1.08	2.79	1.86	1.18	2.57	1.75	1.30
		27°C	3.41	2.48	0.85	3.29	2.43	0.92	3.17	2.37	1.00	3.04	2.32	1.08	2.79	2.17	1.18	2.58	2.05	1.30
		30°C	3.43	3.06	0.85	3.31	3.00	0.92	3.19	2.93	1.00	3.07	2.86	1.09	2.82	2.67	1.18	2.62	2.53	1.30
		33°C	3.48	3.48	0.86	3.38	3.38	0.93	3.27	3.27	1.01	3.16	3.16	1.09	2.93	2.93	1.19	2.74	2.74	1.31
	22°C	27°C	3.74	2.11	0.87	3.61	2.06	0.94	3.47	2.01	1.02	3.34	1.96	1.11	3.07	1.82	1.20	2.84	1.72	1.32
		30°C	3.75	2.59	0.87	3.61	2.54	0.94	3.48	2.48	1.02	3.34	2.42	1.11	3.07	2.27	1.20	2.84	2.15	1.32
		33°C	3.75	3.04	0.87	3.62	2.98	0.94	3.49	2.92	1.02	3.35	2.85	1.11	3.08	2.68	1.20	2.86	2.54	1.32
		36°C	3.77	3.43	0.87	3.65	3.37	0.94	3.53	3.30	1.02	3.40	3.22	1.11	3.13	3.01	1.20	2.92	2.84	1.33
346	16°C	21°C	3.20	2.38	0.85	3.09	2.32	0.91	2.97	2.26	0.99	2.85	2.19	1.07	2.61	2.04	1.16	2.41	1.92	1.28
		24°C	3.22	2.89	0.85	3.10	2.82	0.92	2.99	2.75	0.99	2.87	2.68	1.08	2.63	2.50	1.17	2.43	2.36	1.29
		27°C	3.27	3.27	0.85	3.17	3.17	0.92	3.06	3.06	1.00	2.95	2.95	1.08	2.73	2.73	1.17	2.54	2.54	1.29
		30°C	3.44	3.44	0.86	3.34	3.34	0.93	3.23	3.23	1.01	3.13	3.13	1.09	2.90	2.90	1.19	2.70	2.70	1.31
	19°C	24°C	3.53	2.28	0.86	3.40	2.22	0.93	3.27	2.17	1.01	3.14	2.11	1.09	2.88	1.97	1.19	2.66	1.85	1.31
		27°C	3.54	2.64	0.86	3.41	2.58	0.93	3.28	2.52	1.01	3.15	2.46	1.09	2.89	2.30	1.19	2.67	2.17	1.31
		30°C	3.57	3.25	0.86	3.44	3.18	0.93	3.32	3.10	1.01	3.19	3.03	1.10	2.94	2.83	1.19	2.73	2.66	1.31
		33°C	3.64	3.64	0.87	3.54	3.54	0.94	3.43	3.43	1.02	3.32	3.32	1.11	3.07	3.07	1.20	2.87	2.87	1.33
	22°C	27°C	3.87	2.23	0.88	3.73	2.18	0.95	3.59	2.13	1.03	3.45	2.07	1.11	3.17	1.93	1.21	2.93	1.83	1.33
		30°C	3.88	2.75	0.88	3.74	2.70	0.95	3.60	2.64	1.03	3.46	2.58	1.12	3.17	2.42	1.21	2.94	2.29	1.33
		33°C	3.89	3.22	0.88	3.76	3.17	0.95	3.62	3.10	1.03	3.48	3.03	1.12	3.20	2.84	1.21	2.96	2.70	1.33
		36°C	3.93	3.64	0.88	3.80	3.57	0.95	3.67	3.50	1.03	3.54	3.41	1.12	3.27	3.18	1.22	3.05	2.99	1.34

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

Model: M5WM15JR - M5LC15CRJ
Heating Mode

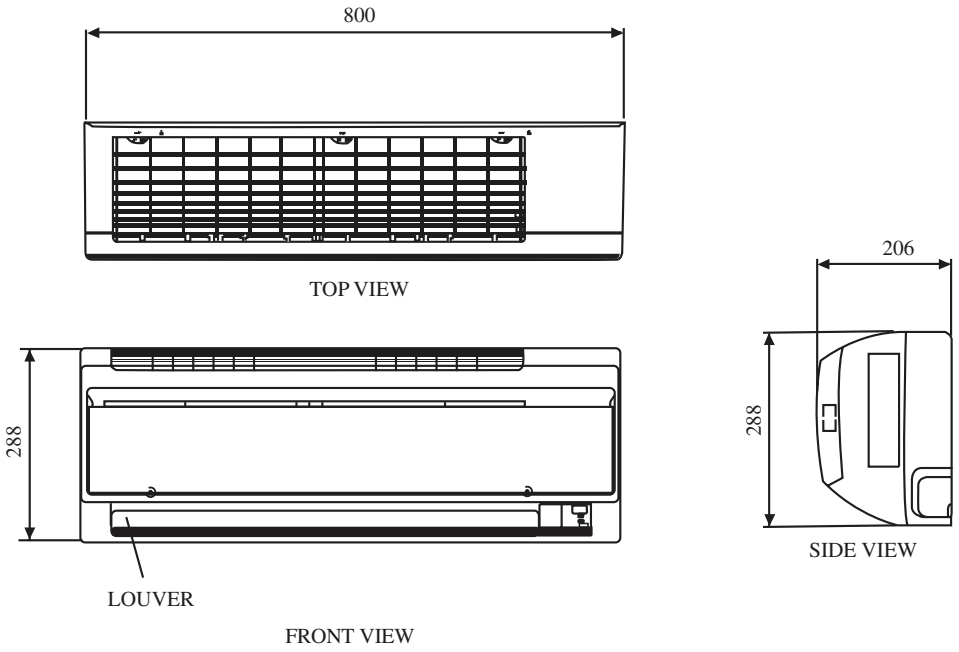
ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	2.043	2.043	2.312	2.312	2.402	2.402	3.389	3.389	3.928	3.928	4.197	4.197	4.467	4.467
17	1.989	1.989	2.255	2.255	2.347	2.347	3.385	3.385	3.869	3.869	4.137	4.137	4.406	4.406
19	1.936	1.936	2.197	2.197	2.293	2.293	3.381	3.381	3.810	3.810	4.078	4.078	4.345	4.345
21	1.882	1.882	2.143	2.143	2.238	2.238	3.331	3.331	3.751	3.751	4.018	4.018	4.285	4.285
23	1.829	1.829	2.091	2.091	2.184	2.184	3.236	3.236	3.692	3.692	3.958	3.958	4.224	4.224
25	1.775	1.775	2.038	2.038	2.129	2.129	3.140	3.140	3.633	3.633	3.898	3.898	4.164	4.164
27	1.722	1.722	1.986	1.986	2.074	2.074	3.045	3.045	3.574	3.574	3.839	3.839	4.103	4.103
	FROST REGION													

Remark:
AFR: Air flow rate (CFM)
EWB: Entering Wet Bulb Temp. (°C)
EDB: Entering Dry Bulb Temp. (°C)
TC: Total Cooling Capacity (kW)
SHC: Sensible Heat Capacity (kW)
PI: Power Input

Notes:
1. Ratings shown are gross capacities which do not include a deduction for indoor fan motor heat.
2. shows nominal capacities.
3. Direct interpolation is permissible. Do not extrapolate.
4. Unit is able to operate at ambient from 0 °C to 46°C without pressure trip.

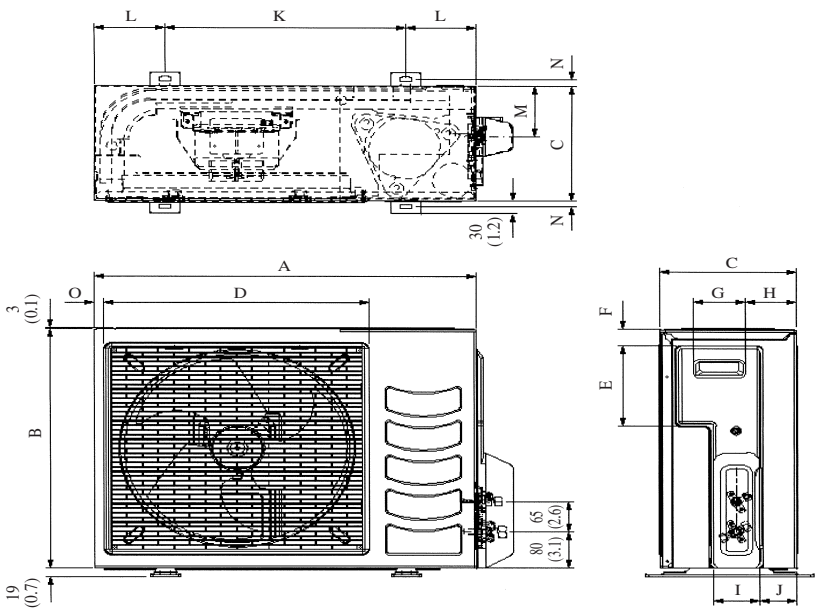
Outline and Dimension

Indoor Unit
Model: MWM09/15J/JR, M5WM10/15J/JR



50123456789	Note: Dimension in mm

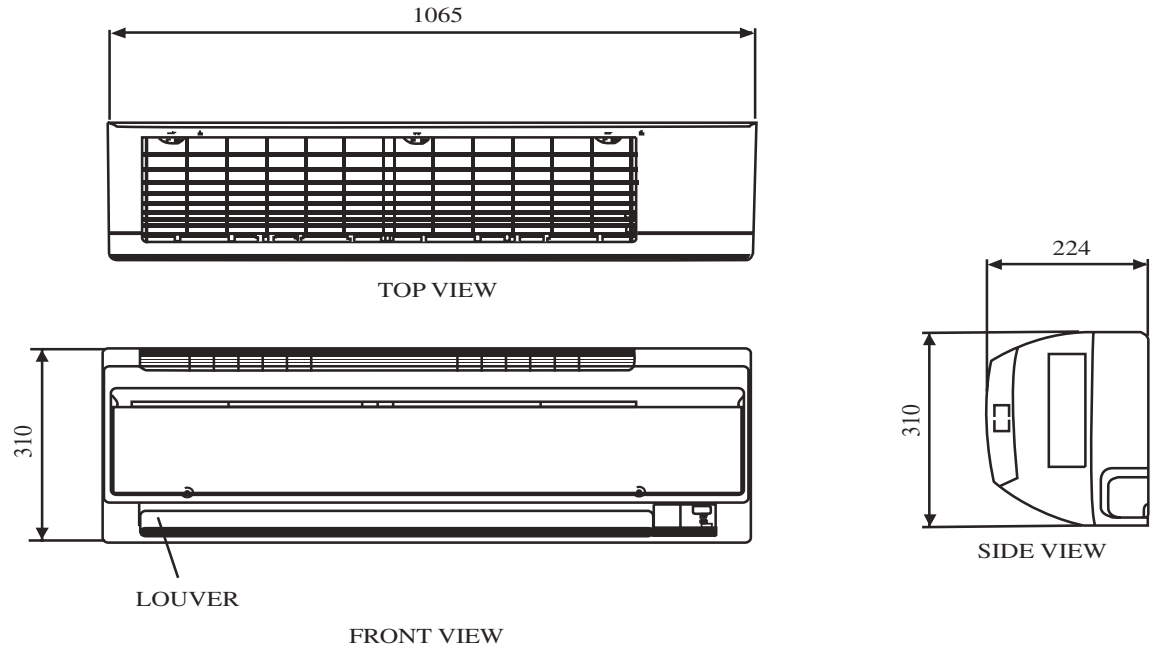
Outdoor Unit
Model: MLC09/15C/CR, M5LC10/15C/CR



Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
10 / 15C / CR	700 (27.5)	521 (20.5)	250 (9.8)	485 (19.1)	175 (6.8)	36 (1.4)	95 (3.7)	93 (3.6)	86 (3.3)	68 (2.6)	441 (17.3)	130 (5.1)	111 (4.3)	15 (0.5)	18 (0.7)

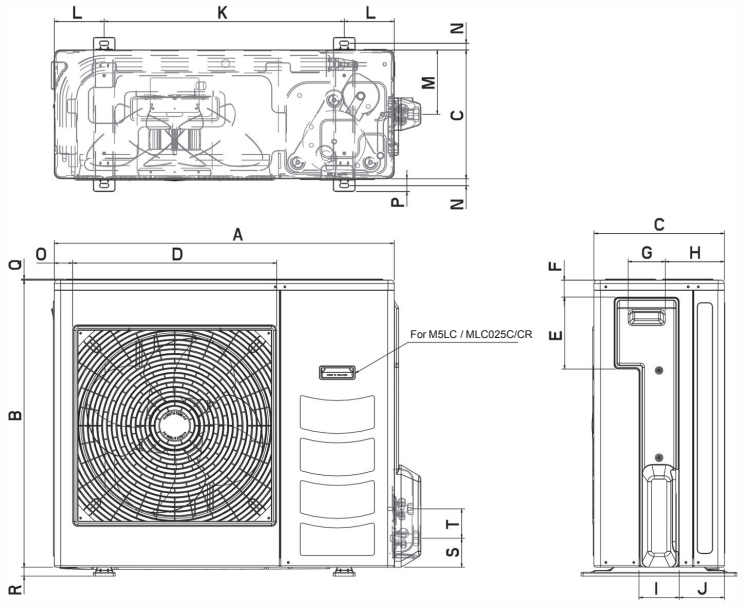
50123456789	Note: Dimension in mm

Indoor Unit
Model: MWM20/25J/JR



Note: Dimension in mm

Outdoor Unit
Model: MLC020/025C/CR



Note : Dimension in mm

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
MLC020C/CR	855	628	328	508	181	44	93	149	101	113	603	126	164	17	49	32	3	23	73	75
MLC025C/CR	855	730	328	513	182	44	93	149	101	113	603	126	164	17	47	32	3	23	73	75

Note: Dimension in mm

Electrical Data

Electrical Data - Cooling Only (R22)

MODEL	INDOOR UNIT		MWM09J	MWM15J
	OUTDOOR UNIT		MLC09C	MLC15C
INDOOR MOTOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	RATED INPUT POWER	W	31	40
	RATED RUNNING CURRENT	A	0.18	0.20
	MOTOR OUTPUT	W	18	18
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	RATED INPUT POWER	W	45	59
	RATED RUNNING CURRENT	A	0.20	0.26
	MOTOR OUTPUT	W	18	24
	POLES		6	6
COMPRESSOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	CAPACITOR	μF	30.0	30.0
	RATED INPUT POWER	W	849	1077
	RATED RUNNING CURRENT	A	3.70	4.90
	LOCKED ROTOR AMP.	A	20	23

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Heat Pump (R22)

MODEL	INDOOR UNIT		MWM09JR	MWM15JR
	OUTDOOR UNIT		MLC09CR	MLC15CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	RATED INPUT POWER	W	31	40
	RATED RUNNING CURRENT	A	0.18	0.20
	MOTOR OUTPUT	W	18	18
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	RATED INPUT POWER	W	45	59
	RATED RUNNING CURRENT	A	0.20	0.26
	MOTOR OUTPUT	W	18	24
	POLES		6	6
COMPRESSOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	CAPACITOR	μF	30.0	30.0
	RATED INPUT POWER (COOLING)	W	849	1093
	RATED INPUT POWER (HEATING)	W	674	967
	RATED RUNNING CURRENT (COOLING)	A	3.70	5.00
	RATED RUNNING CURRENT (HEATING)	A	3.00	4.50
	LOCKED ROTOR AMP.	A	20	23

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Electrical Data - Cooling Only (R22)

MODEL	INDOOR UNIT		MWM20J	MWM25J
	OUTDOOR UNIT		MLC020C	MLC025C
INDOOR MOTOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	60	72
	RATED RUNNING CURRENT	A	0.27	0.34
	MOTOR OUTPUT	W	26	30
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	120	124
	RATED RUNNING CURRENT	A	0.53	0.54
	MOTOR OUTPUT	W	64	75
	POLES		6	6
COMPRESSOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	CAPACITOR	μF	60.0	50.0
	RATED INPUT POWER	W	1674	2334
	RATED RUNNING CURRENT	A	7.41	10.41
	LOCKED ROTOR AMP.	A	32	54

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Heat Pump (R22)

MODEL	INDOOR UNIT		MWM20JR	MWM25JR
	OUTDOOR UNIT		MLC020CR	MLC025CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	60	72
	RATED RUNNING CURRENT	A	0.27	0.34
	MOTOR OUTPUT	W	26	30
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	120	124
	RATED RUNNING CURRENT	A	0.53	0.54
	MOTOR OUTPUT	W	75	75
	POLES		6	6
COMPRESSOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	CAPACITOR	μF	60.0	50.0
	RATED INPUT POWER (COOLING)	W	1674	2334
	RATED INPUT POWER (HEATING)	W	1574	2269
	RATED RUNNING CURRENT (COOLING)	A	7.41	10.41
	RATED RUNNING CURRENT (HEATING)	A	6.93	10.13
	LOCKED ROTOR AMP.	A	32	54

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Electrical Data - Cooling Only (R410A)

MODEL	INDOOR UNIT		M5WM10J	M5WM15J
	OUTDOOR UNIT		M5LC10C	M5LC15C
INDOOR MOTOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	RATED INPUT POWER	W	32	40
	RATED RUNNING CURRENT	A	0.17	0.20
	MOTOR OUTPUT	W	18	18
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	RATED INPUT POWER	W	52	59
	RATED RUNNING CURRENT	A	0.23	0.26
	MOTOR OUTPUT	W	35	35
	POLES		6	6
COMPRESSOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	CAPACITOR	μF	30.0	25.0
	RATED INPUT POWER	W	741	995
	RATED RUNNING CURRENT	A	3.30	4.60
	LOCKED ROTOR AMP.	A	17	23

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Heat Pump (R410A)

MODEL	INDOOR UNIT		M5WM10JR	M5WM15JR
	OUTDOOR UNIT		M5LC10CR	M5LC15CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	RATED INPUT POWER	W	32	40
	RATED RUNNING CURRENT	A	0.17	0.20
	MOTOR OUTPUT	W	18	18
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	RATED INPUT POWER	W	52	59
	RATED RUNNING CURRENT	A	0.23	0.26
	MOTOR OUTPUT	W	35	35
	POLES		6	6
COMPRESSOR	INSULATION GRADE		CLASS E	CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1/ 50	220 - 240 / 1/ 50
	CAPACITOR	μF	30.0	25.0
	RATED INPUT POWER (COOLING)	W	741	995
	RATED INPUT POWER (HEATING)	W	691	891
	RATED RUNNING CURRENT (COOLING)	A	3.3	4.6
	RATED RUNNING CURRENT (HEATING)	A	2.8	4.2
	LOCKED ROTOR AMP.	A	17	23

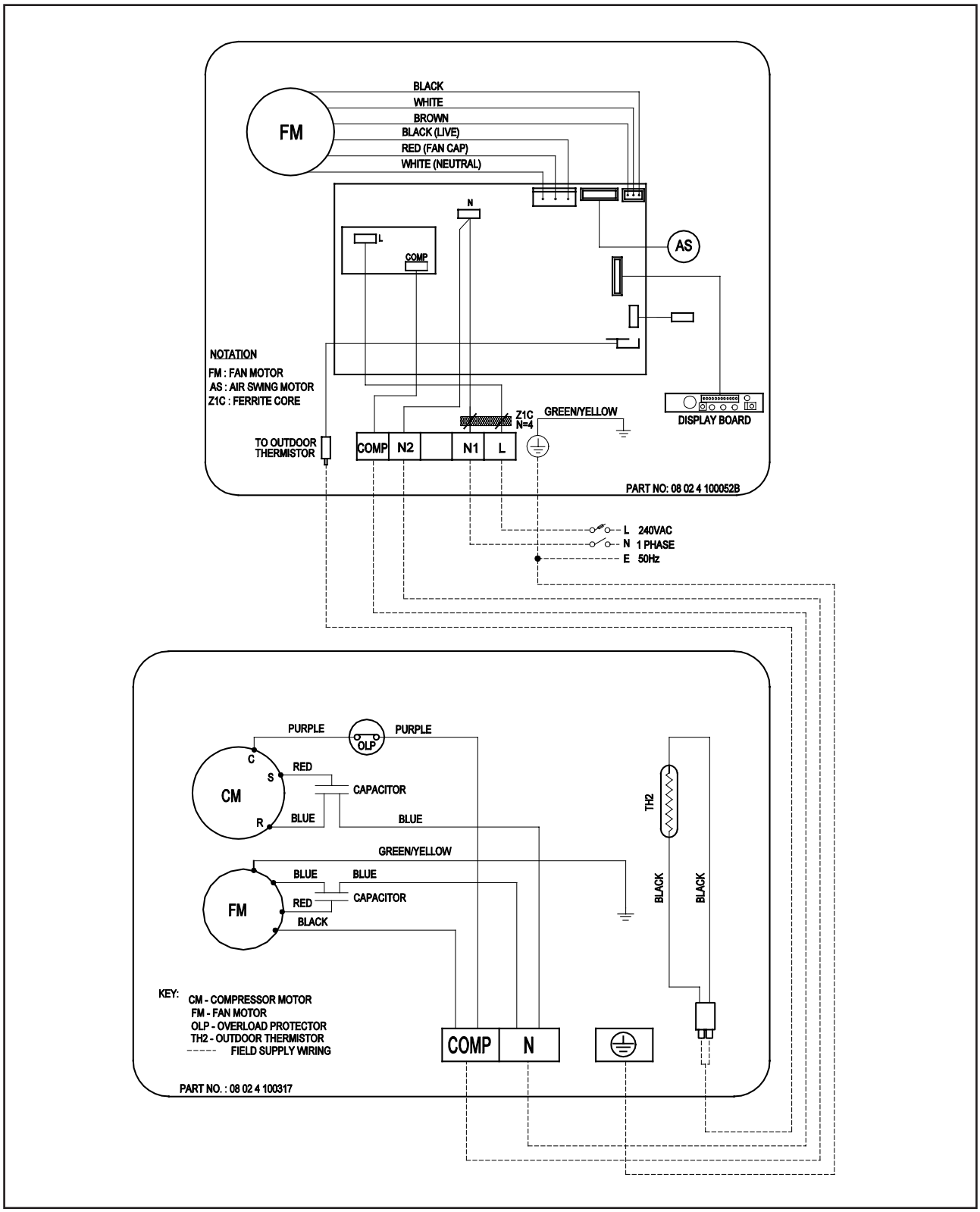
1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Wiring Diagram

Cooling Only

Indoor Unit
Model: MWM09/15J
M5WM10/15J

Outdoor Unit
Model: MLC09/15CJ
M5LC10/15CJ

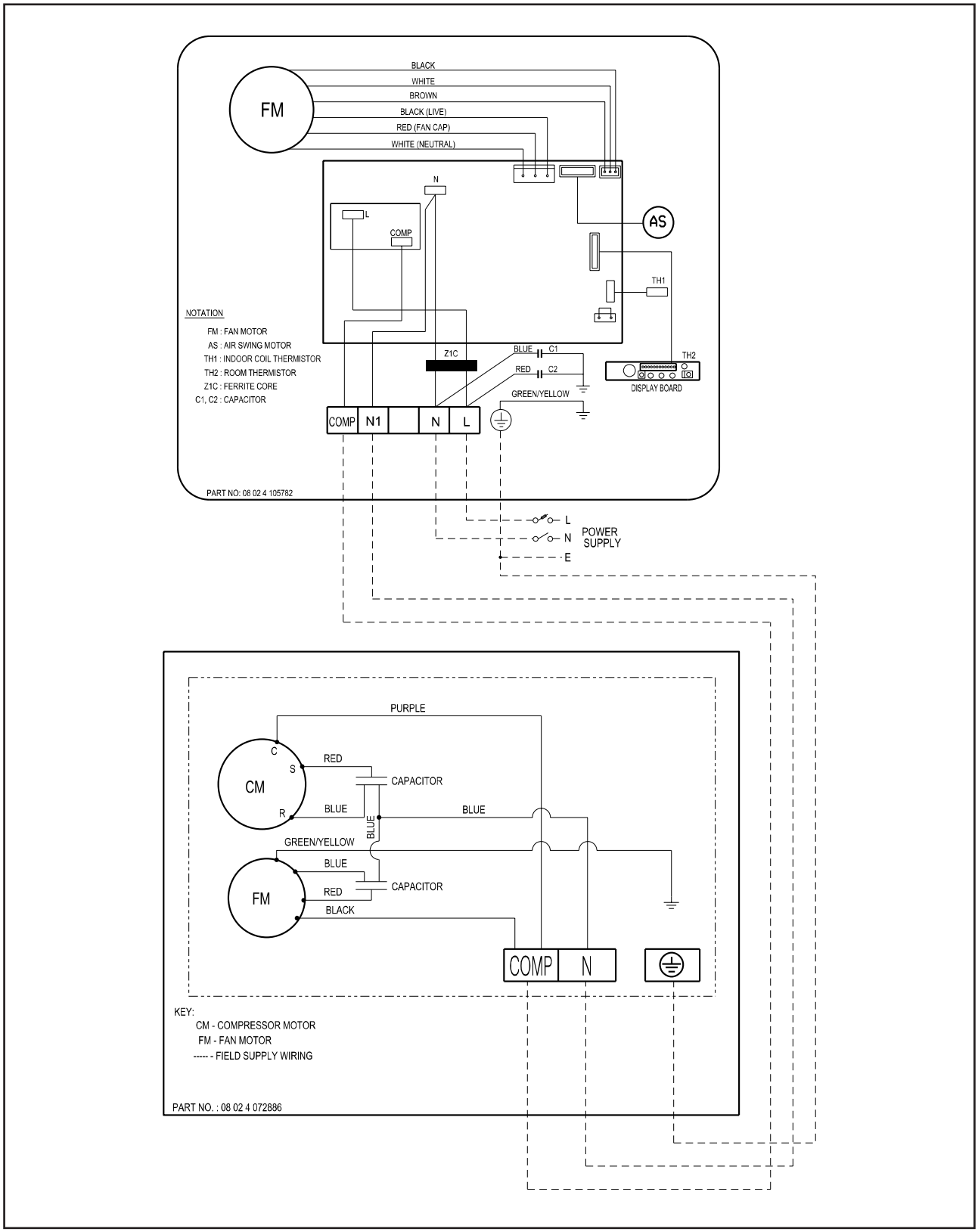


70034 101945

Cooling Only

Indoor Unit
Model: MWM20/25J

Outdoor Unit
Model: MLC020/025C

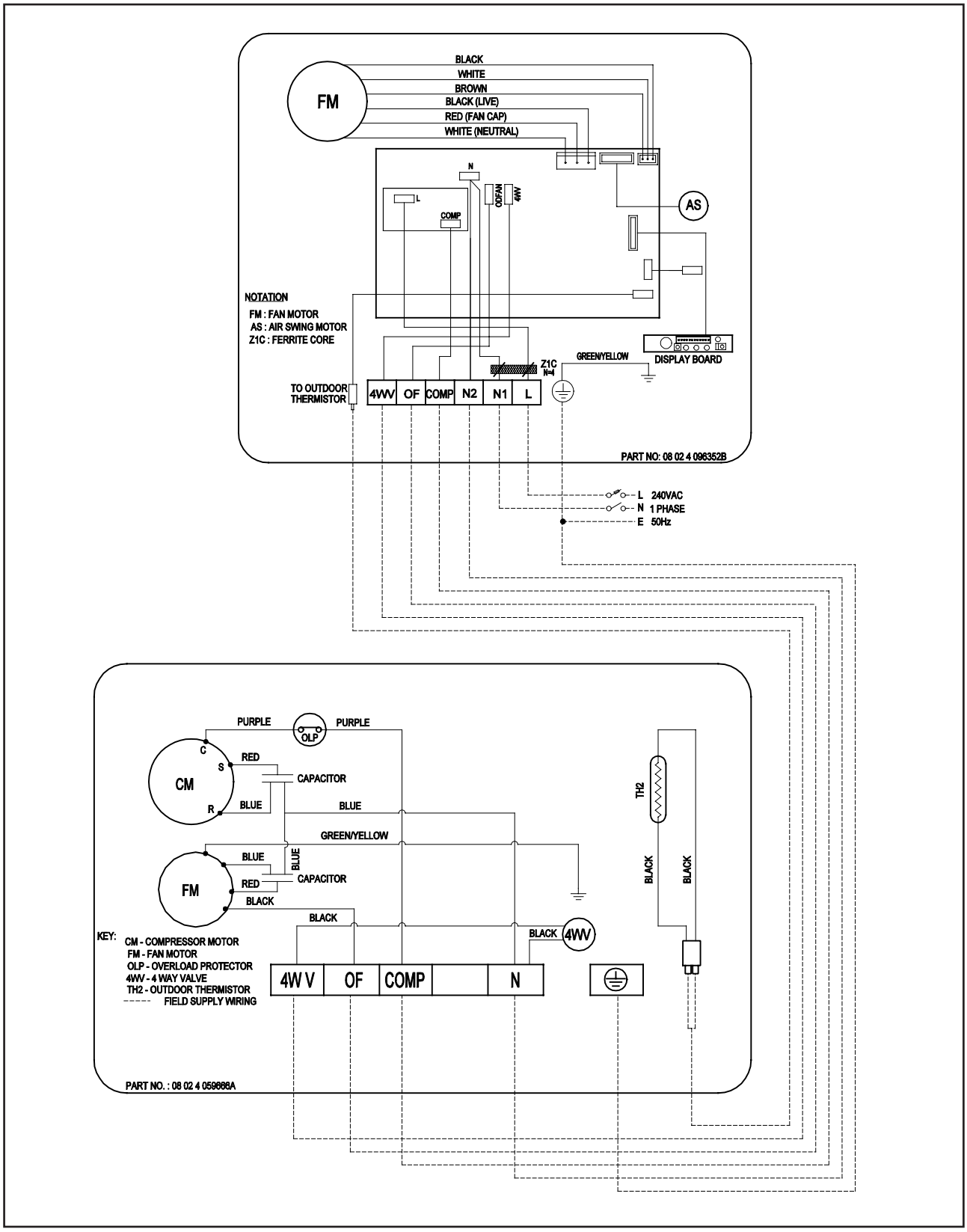


70034 108883

Heat Pump

Indoor Unit
Model: MWM09/15JR
M5WM10/15JR

Outdoor Unit
Model: MLC09/15CRJ
M5LC10/15CRJ

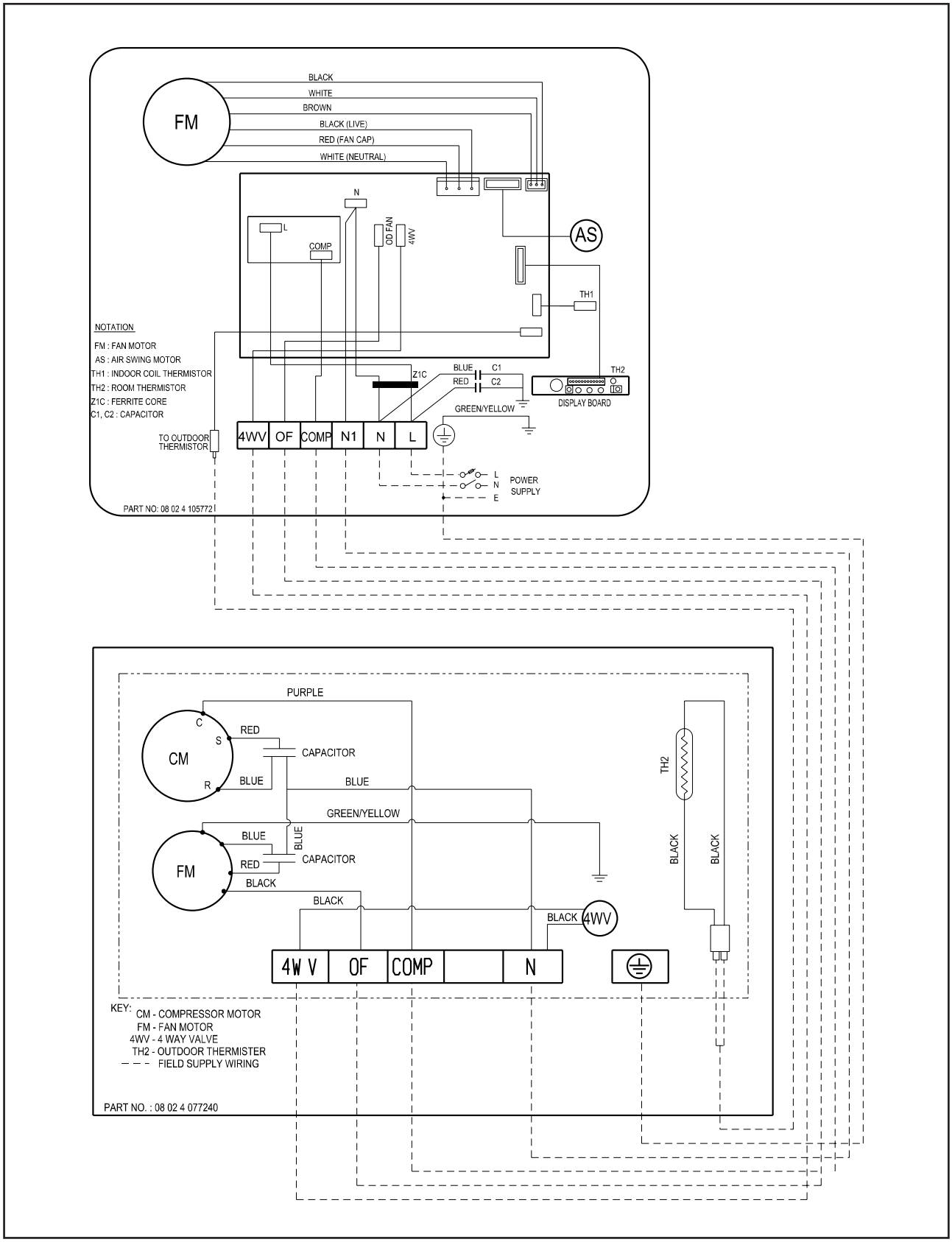


70034 101944

Heat Pump

Indoor Unit
Model: MWM20/25JR

Outdoor Unit
Model: MLC020/025CR



70034 108882

Service and Maintenance

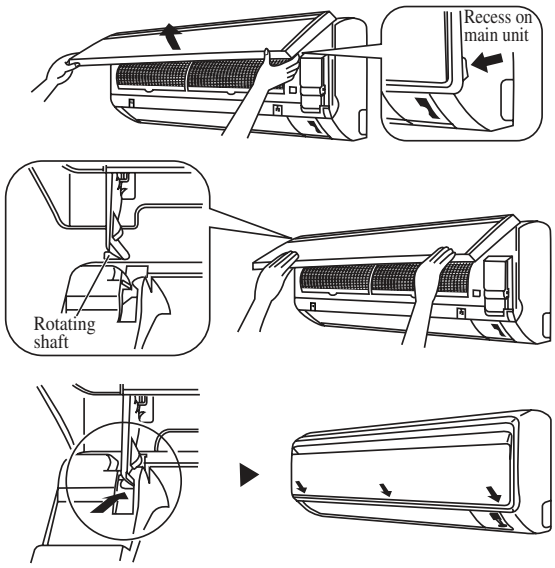
⚠ Warning

- Disconnect from main supply before servicing the air conditioner.
- The unit is designed to give long life operation with minimum maintenance required. However, it should be regularly checked and the following items should be given due attention.

Components	Maintenance Procedures	Period
Air Filter (Indoor Unit)	1. Remove any dust adhering to the filter by using a vacuum cleaner or wash in lukewarm water (below 40˚C) with a neutral cleaning detergent. 2. Rinse the filter well and dry before placing it back onto the unit. 3. Note: Never use gasoline, volatile substances or chemicals to clean the filter.	At least once every 2 weeks. More frequently if necessary.
Indoor Unit	1. Clean any dirt or dust on the grille or panel by wiping it with a soft cloth soaked in lukewarm water (below 40˚C) and a neutral detergent solution. 2. Note: Never use gasoline, volatile substances or chemicals to clean the indoor unit.	At least once every 2 weeks. More frequently if necessary.
Condense Drain Pan & Pipe	1. Check the cleanliness and clean it if necessary. 2. Check the condensate water flow.	Every 3 months.
Indoor Fan	Check if there is any abnormal noise.	If necessary.
Indoor / Outdoor Coil	1. Check and remove the dirt between the fins. 2. Check and remove any obstacles which hinder air flow through the indoor or outdoor.	Every month.
Power Supply	1. Check the running current and voltage for indoor and outdoor unit. 2. Check the electrical wiring and tighten the wire onto the terminal block if necessary.	Every 2 months. Every year.
Compressor	No maintenance needed if refrigerant circuit remains sealed. However, check for refrigerant leak at joint and fitting.	Every 6 months.

Indoor Models

1. Open the front panel
   - Hold the panel at the recesses on the main unit (2 recesses on right and left sides) and lift it until it stops.
2. Remove the front panel
   - While lifting the front panel further, slide it to the right and pull it to the front side. The left rotating shaft is detached. Slide the right rotating shaft to the left and pull it to the front side to remove it.
3. Attach the front panel
   - Align the right and left rotating shafts of the front panel with the grooves and push them all the way in.
   - Gently close the front panel. (Push both ends and the center on the front panel.)



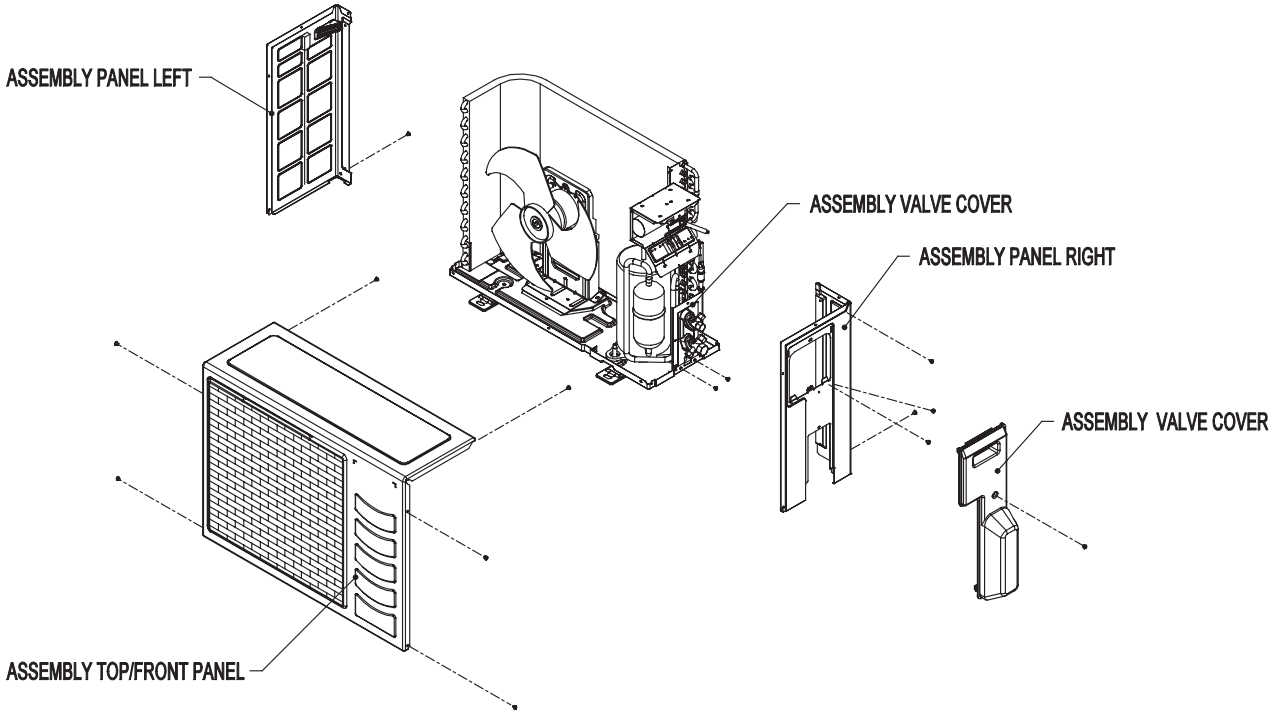
⚠ Caution

- Don't touch the metal parts of the indoor unit. It may cause an injury.
- When removing or attaching the front panel, use a robust and stable stool and watch your steps carefully.
- When removing or attaching the front panel, support the panel securely with hand to prevent from it falling.
- For cleansing, do no use hot water above 40°C, benzene, gasoline, thinner, nor other volatile oils, polishing compound, scrubbing brushes, nor other hand stuff.
- After cleaning, make sure that the front panel is securely fixed.

Pre Start Up Maintenance
(After Extended Shutdown)

- Inspect thoroughly and clean indoor and outdoor units.
- Clean or replace air filters.
- Clean condensates drain line.
- Clean clogged indoor and outdoor coils.
- Check fan imbalance before operation.
- Tighten all wiring connections and panels.
- Check for refrigerant leakage.

Outdoor Models
The design of the M5LC outdoor series allows servicing to be carried out easily. The removal of the top, front and side panels makes almost every part accessible.



Under normal circumstances, these outdoor units only require a check and cleaning of air intake coil surface once every 3 months. However, if a unit is installed in areas subjected to much oil mist and dust, the coils must be regularly cleaned by qualified Air Conditioner Service Technicians to ensure sufficient heat exchange and proper operation. Otherwise, the systems life span may be shortened.

⚠ Caution

- Do not charge OXYGEN, ACETYLENE OR OTHER FLAMMABLE and poisonous gases into the unit when performing a leakage test or an airtight test. These gases could cause severe explosion and damage if exposed to high temperature and pressure.
- It is recommended that only nitrogen or refrigerant be charged when performing the leakage or airtight test.

Troubleshooting

Error Code / Fault Condition

When a malfunction of the air conditioner unit is detected, immediately switch off the main power supply before proceeding with the following troubleshooting procedures.
The following are common fault conditions and simple troubleshooting tips. If any other fault conditions which are not listed occur, contact your nearest local dealer. DO NOT attempt to troubleshoot the unit by yourself.

No	Fault conditions	Possible causes / corrective actions
1	The air conditioner unit will not resume after power failure.	• The auto restart function is not functioning. Please turn on the unit with the wireless / wired controller.
2	The compressor does not operate 3 minutes after the air conditioner unit is started.	• Protection against frequent starting. • Wait for 3 or 4 minutes for the compressor to start operating by it self.
3	The airflow is too slow or room cannot be cooled sufficiently.	• The air filter is dirty. • The doors and windows are opened. • The air suction and discharge of both indoor and outdoor units are clogged or blocked. • The regulated temperature or temperature setting is not low enough.
4	Discharge airflow has bad odor.	• Cigarettes, smoke particles, perfume and others, which might have adhered onto the coil, may cause odor. • Contact your nearest dealer.
5	Condensation on the front air grille of the indoor unit.	• This is caused by air humidity after an extended period of operation. • The set temperature is too low. Increase the temperature setting and operate the unit at high fan speed.
6	Water flowing out from the air conditioner.	• Switch off the unit and contact your nearest dealer. This might be due to tilted installation.
7	Hissing airflow sound from the air conditioner unit during operation.	• Liquid refrigerant flowing into the evaporator coil.
8	The wireless controller display is dim.	• The batteries are discharged. • The batteries are not correctly inserted. • The assembly is not good.
9	Compressor operates continuously.	• Dirty air filter. Clean the air filter. • Temperature setting too low (cooling). Use higher temperature setting. • Temperature setting too high (heating), Use lower temperature setting.
10	No cool air comes out during cooling cycle, or no hot air comes out during heating cycle.	• Temperature setting too high (cooling). Use lower temperature setting. • Temperature setting too low (heating). Use higher temperature setting.
11	On heating cycle, warm air does not come out.	• Unit is in defrost mode. Heating operation will resume after defrost cycle ends.

Diagnostic Guidelines

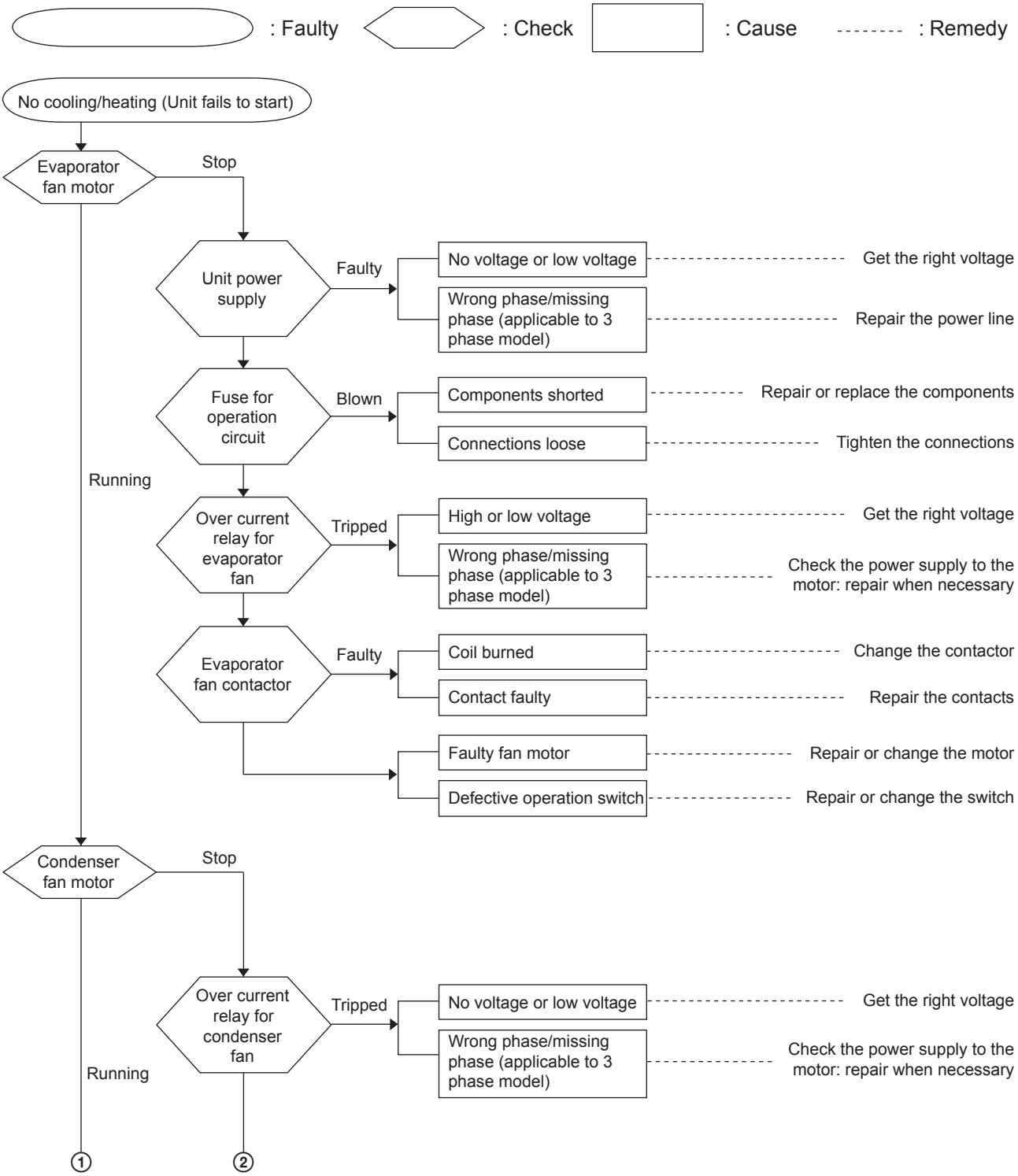
By means of pressure readings:

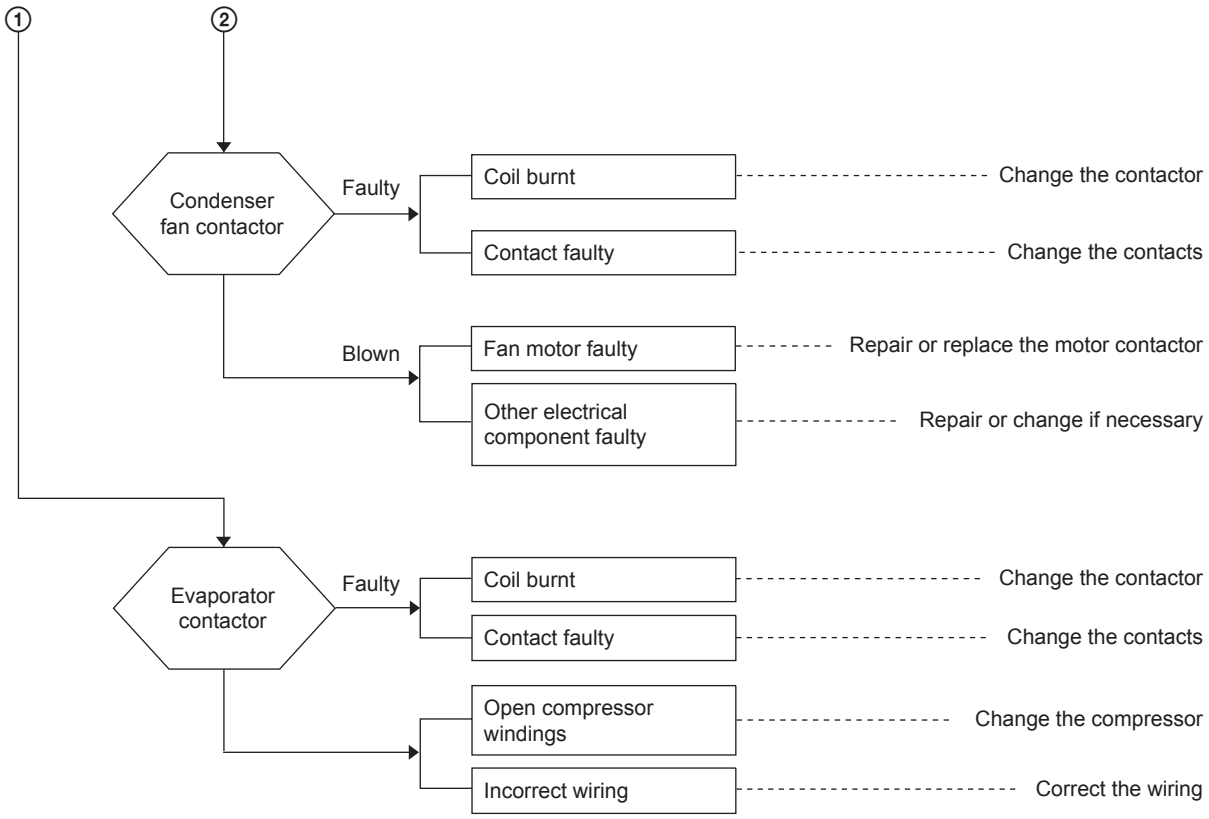
Data / Circuit	Pressure					Probable cause
	Too low	A little low	Normal	A little high	Too high	
High side **Low side**					• •	1. Overcharged with refrigerant. 2. Non-condensable gases in refrigerant circuit (e.g. air) 3. Obstructed air-intake / discharge. 4. Hot air short circuiting in outdoor unit.
High side **Low side**	•				•	1. Poor compression /no compression (compressor defective) 2. Reversing valve leaking.
High side **Low side**	•	•				1. Undercharged with refrigerant. 2. Refrigerant leakage. 3. Air filter clogged / dirty (indoor unit). 4. Indoor fan locked / seized. 5. Defective defrost control, outdoor coil freeze up (heating). 6. Outdoor fan locked / seized (heating).
High side **Low side**				•	•	1. Outdoor fan blocked (cooling). 2. Outdoor coil dirty (cooling). 3. Indoor fan locked / seized (heating). 4. Indoor air filter clogged / dirty (heating). 5. Non-condensable gases in refrigerant circuit (e.g. air)
High side **Low side**				•	•	1. Air intake temperature of indoor unit too high.

By means of diagnostic flow chart:

Generally, there are two kinds of problems, i.e. starting failure and insufficient cooling/heating. “Starting failure” is caused by electrical defect while improper application or defects in refrigerant circuit causes “Insufficient cooling / heating”.

i) Diagnosis of Electric circuit

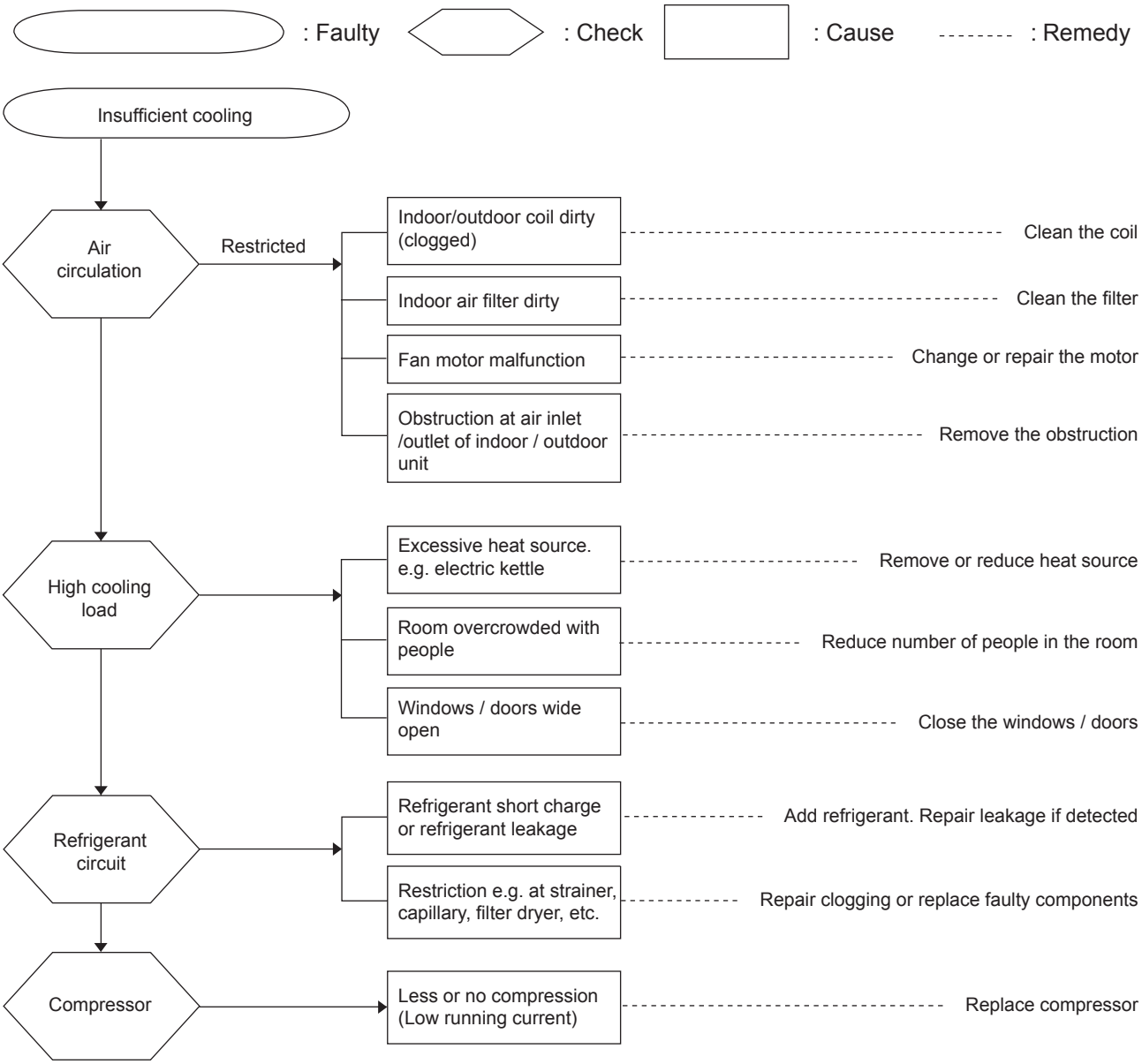




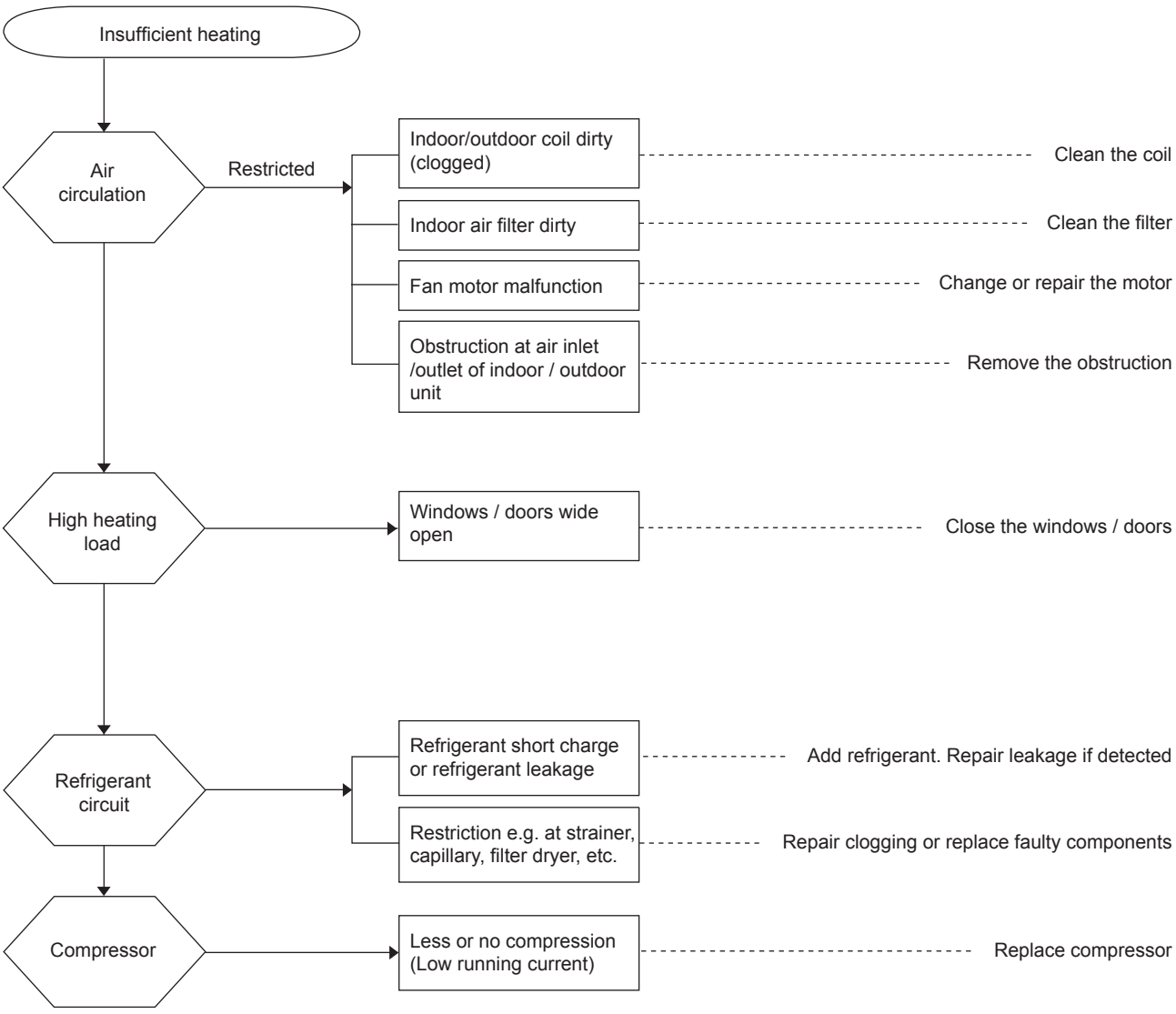
The most common causes of air conditioner failure to “start” are :
a) Voltage not within ±10% of rated voltage.
b) Power supply interrupted.
c) Improper control settings.
d) Air conditioner is disconnected from main power source.
e) Fuse blown or circuit breaker off.

ii) Diagnosis of Refrigerant Circuit / Application

There might be some causes where the unit starts running but does not perform satisfactorily, i.e. insufficient cooling. Judgement could be made by measuring temperature difference of indoor unit's intake and discharge air as well as running current.


: Faulty
: Check
: Cause
: Remedy
Insufficient cooling
Air circulation
Restricted
Indoor/outdoor coil dirty (clogged)
Clean the coil
Indoor air filter dirty
Clean the filter
Fan motor malfunction
Change or repair the motor
Obstruction at air inlet /outlet of indoor / outdoor unit
Remove the obstruction
High cooling load
Excessive heat source. e.g. electric kettle
Remove or reduce heat source
Room overcrowded with people
Reduce number of people in the room
Windows / doors wide open
Close the windows / doors
Refrigerant circuit
Refrigerant short charge or refrigerant leakage
Add refrigerant. Repair leakage if detected
Restriction e.g. at strainer, capillary, filter dryer, etc.
Repair clogging or replace faulty components
Compressor
Less or no compression (Low running current)
Replace compressor

Satisfactory operation with temperature difference of air intake & discharge of indoor unit 8°C to 13°C. *
(* value is for reference only)


Insufficient heating
Air circulation
Restricted
Indoor/outdoor coil dirty (clogged)
Clean the coil
Indoor air filter dirty
Clean the filter
Fan motor malfunction
Change or repair the motor
Obstruction at air inlet /outlet of indoor / outdoor unit
Remove the obstruction
High heating load
Windows / doors wide open
Close the windows / doors
Refrigerant circuit
Refrigerant short charge or refrigerant leakage
Add refrigerant. Repair leakage if detected
Restriction e.g. at strainer, capillary, filter dryer, etc.
Repair clogging or replace faulty components
Compressor
Less or no compression (Low running current)
Replace compressor

Satisfactory operation with temperature difference of air intake & discharge of indoor unit 14°C to 20°C. *
(* value is for reference only)

Indicator Lights

IR Signal Receiver

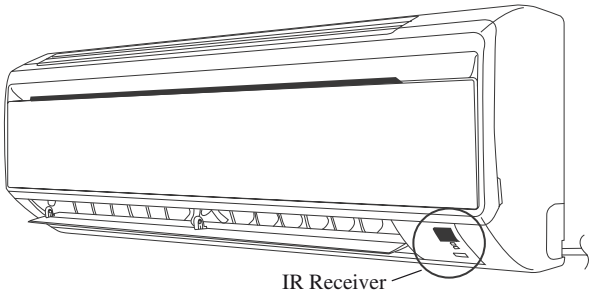
When an infra red remote control operating signal has been transmitted, the signal receiver on the indoor unit will respond as below to confirm acceptance of the signal transmission.

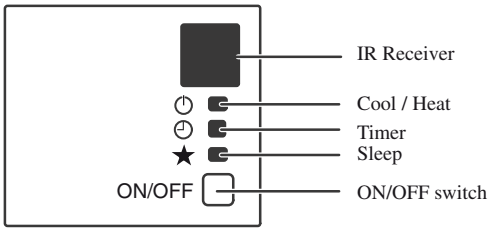
ON to OFF	1 Long Beep
OFF to ON Pump down/Cool force on	2 Short Beep
Others	1 Short Beep

Cooling Unit / Heat Pump Unit

The table below shows the LED indicator lights for the air conditioner unit under normal operation and fault conditions. The LED lights are located at the middle of the air conditioner unit.

The heat pump units are equipped with an “auto” mode sensor whereby it will provide reasonable room temperature by switching automatically to either “cool” or “heat” mode according to the temperature set by the user.





LED Indoor Lights: Normal Operation and Fault Conditions for Cooling / Heat Pump Unit

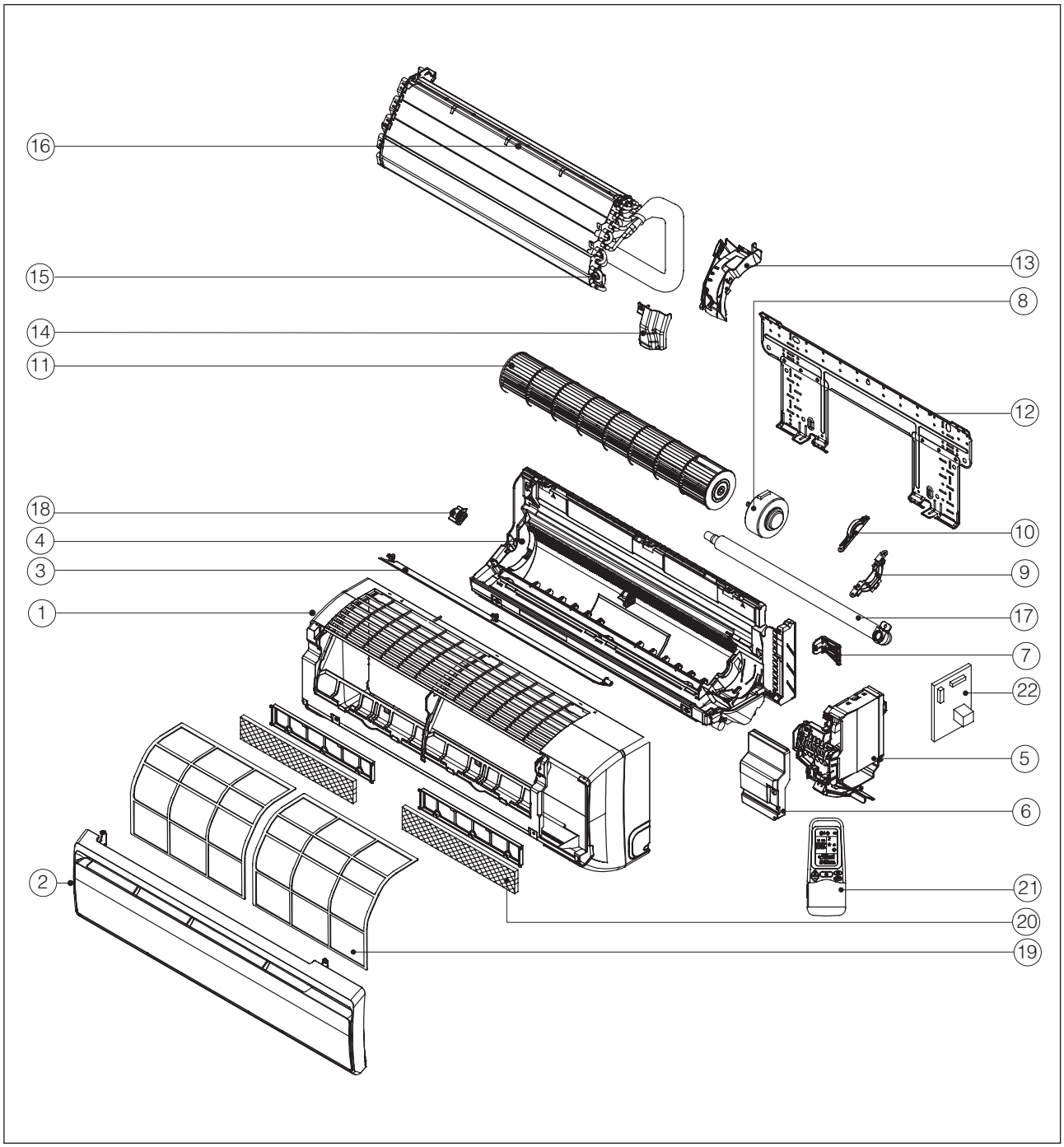
	COOL/HEAT (GREEN/RED)		**Error Code**	**Normal Operation / Fault Indication**
○/●	○ Green		-	Cool mode
○/●	○ Red		-	Heat mode
○/●	○ Red		-	Auto mode in Heating operation
○/●	○ Green		-	Auto mode in Cooling operation
	○	○	-	Time on
○	○		-	Sleep mode on
	○		-	Fan mode on
	○		-	Dry mode on
	◑ 1 time		Blink E1	Room air sensor contact loose / short
	◑ 3 times		Blink E3	Outdoor coil sensor open
	◑ 2 times		Blink E2	Indoor coil sensor open
		◑ 1 time	Blink E4	Compressor overload / indoor coil sensor short / outdoor coil sensor short
	◑ Red		-	Defrost operation
		◑ 3 times	Blink E5	Gas leak
		◑ 6 times	Blink E8	Hardware error (tact switch pin short)
●	◑ 4 times		Blink E9	No feedback from indoor fan
	◑ 5 times		Blink EE	EEPROM defrost

● ON ○/● ON or OFF ◑ Blinking

Note: The unit will not detect sensor missing when the compressor is ON.

Exploded View and Part List

INDOOR UNIT
MODEL: MWM09/15J/JR, M5WM10/15J/JR



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Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

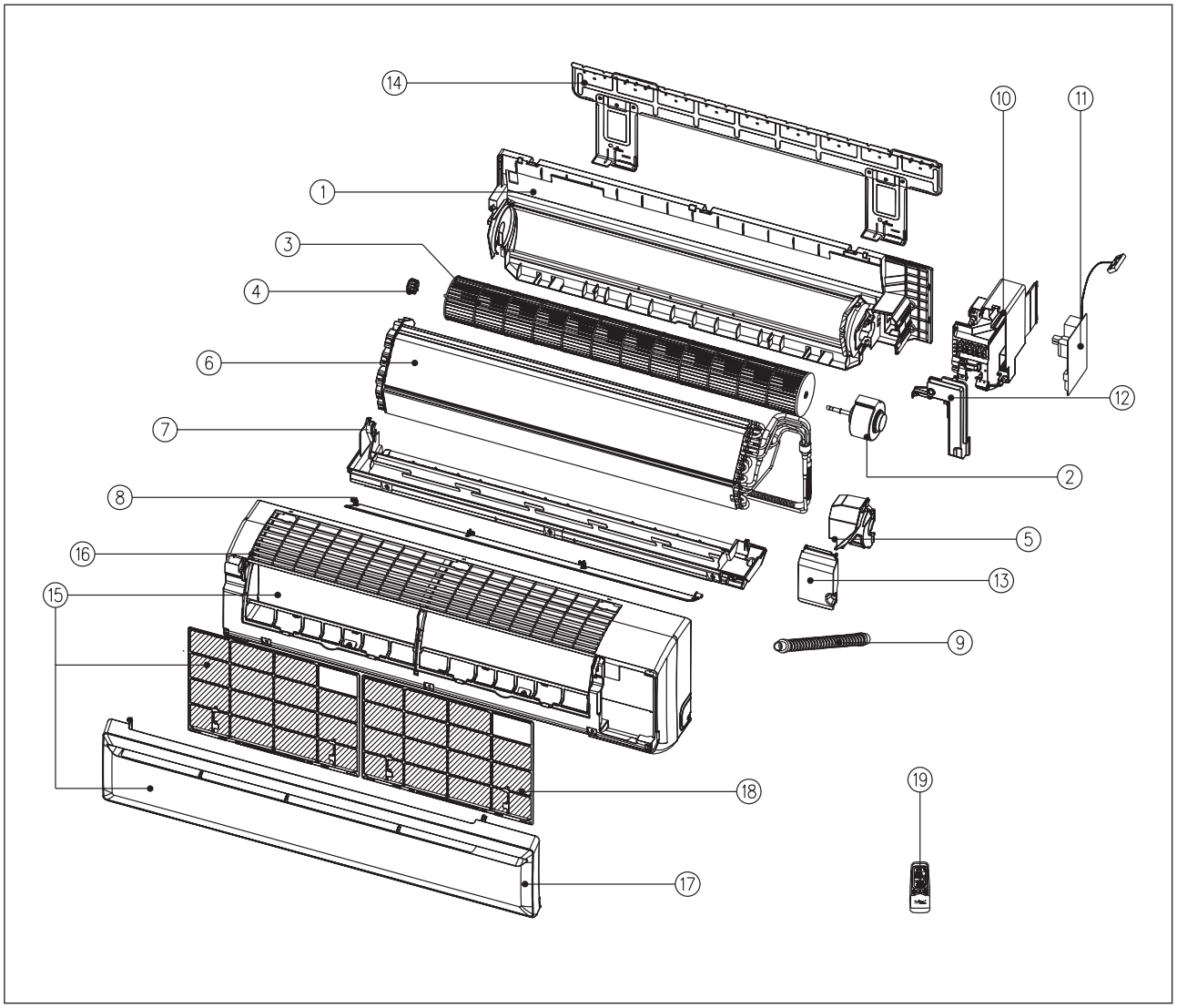
INDOOR UNIT
MODEL: MWM09/15J/JR, M5WM10/15J/JR

No	Description
1	Assy. Front Grille
2	Panel, McQuay
3	Disch. Grille Hor.Blade Assy.
4	Assy. Bottom Frame
5	Assy. Control Box
6	Assy. Service Cover
7	Assy. Piping Fixture
8	Motor
9	Motor Mounting Plate (1)
10	Motor Mounting Plate (2)
11	Blower
12	Assy. Installation Plate

No	Description
13	Right Side Panel
14	Cover, Drip Proof
15	Clip, Coil Sensor
16	Assy. Heat Exchanger
17	Assy. Drain Hose
18	Fan Bearing Vibration Absorber
19	Air Filter
20	Bio Antibody Filter (Pack)
	Titanium Apatite Filter (Pack)
21	Handset, Wireless G17
22	Control Module

Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

INDOOR UNIT
MODEL: MWM20/25J/JR

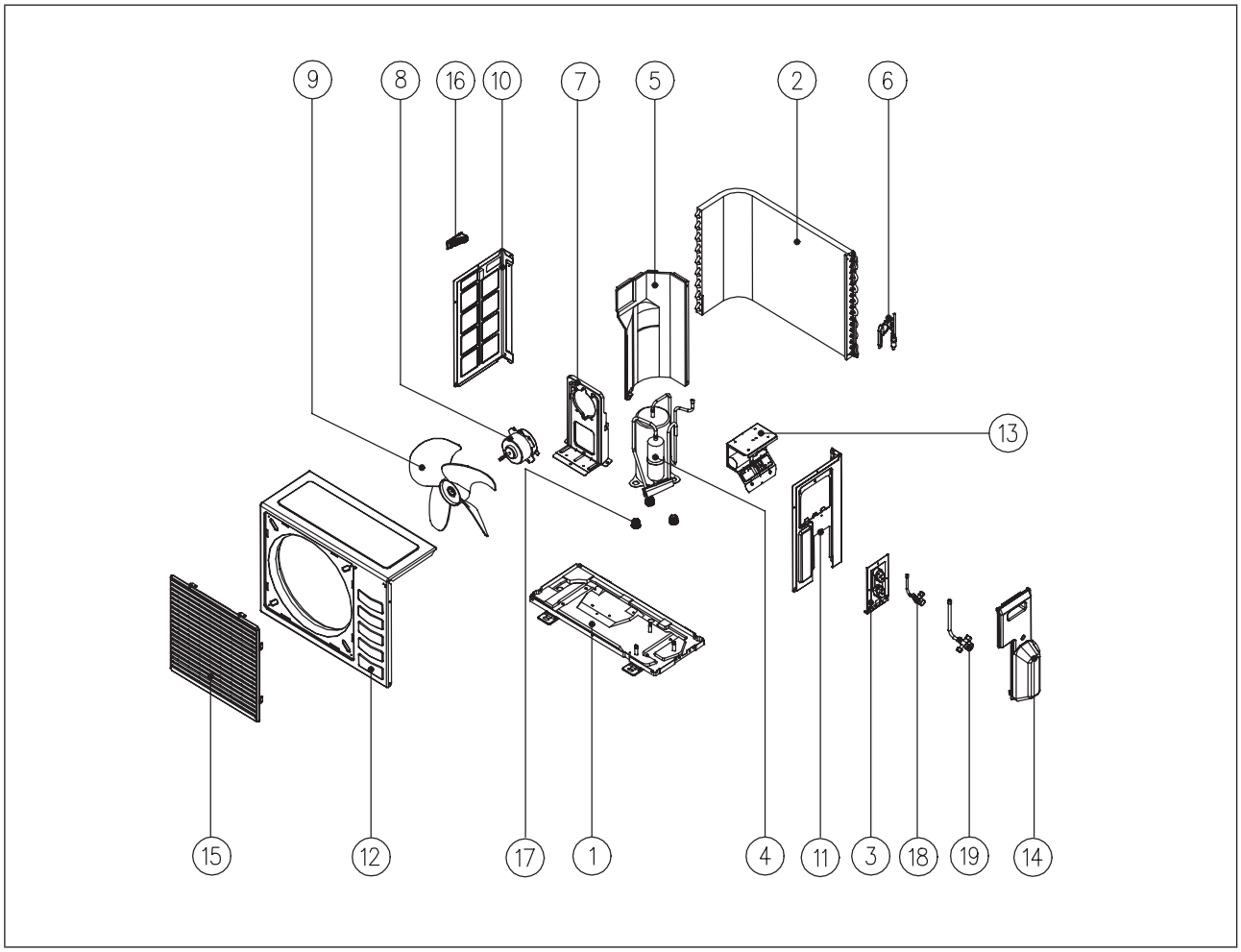


No	Description
1	Assy, Chassis
2	Motor
3	Blower
4	Fan Bush
5	Motor Cover
6	Assy, Indoor Coil
7	Assy, Air Discharge Housing
8	Assy, Louver
9	Hose
10	Assy, Control Box

No	Description
11	Assy, PCB (with Lamp Cover)
12	Control Box Cover
13	Service Cover
14	Assy, Mounting Plate
15	Assy, Front Cover
16	Front Cover
17	Intake Grill
18	Filter
19	Handset Wireless

Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

OUTDOOR UNIT
MODEL: MLC09C



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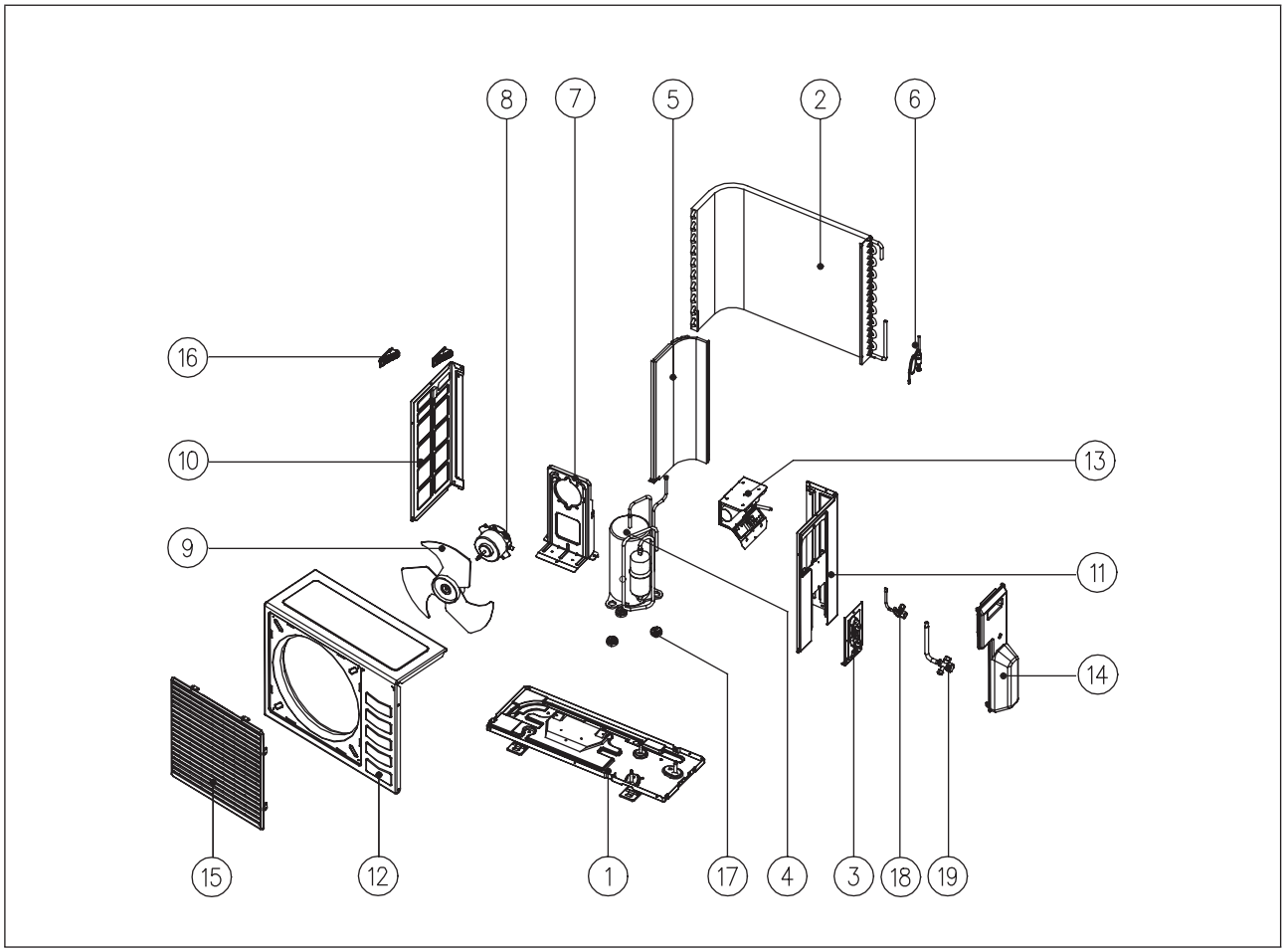
No	Description
1	Assy. Base Pan
2	Assy. Outdoor Coil
3	Valve Bracket
4	Compressor
5	Assy. Partition
6	Assy. Cap Tube
7	Bracket, Fan Motor
8	Fan Motor
9	Fan Blade
10	Left Panel
11	Right Panel
12	Assy. Front Panel

No	Description
13	Assy. Control Panel
14	Assy. Valve Cover
15	Assy. Front Grille
16	Plastic Handle
17	Rubber Grommet
18	Assy. Flare Valve 2 Ways 1/4”
19	Assy. Flare Valve 3 Ways 3/8”
Parts Not in Diagram	
	Capacitor, Fan Motor
	Capacitor, Compressor

Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

OUTDOOR UNIT
MODEL: MLC15C, M5LC10/15C



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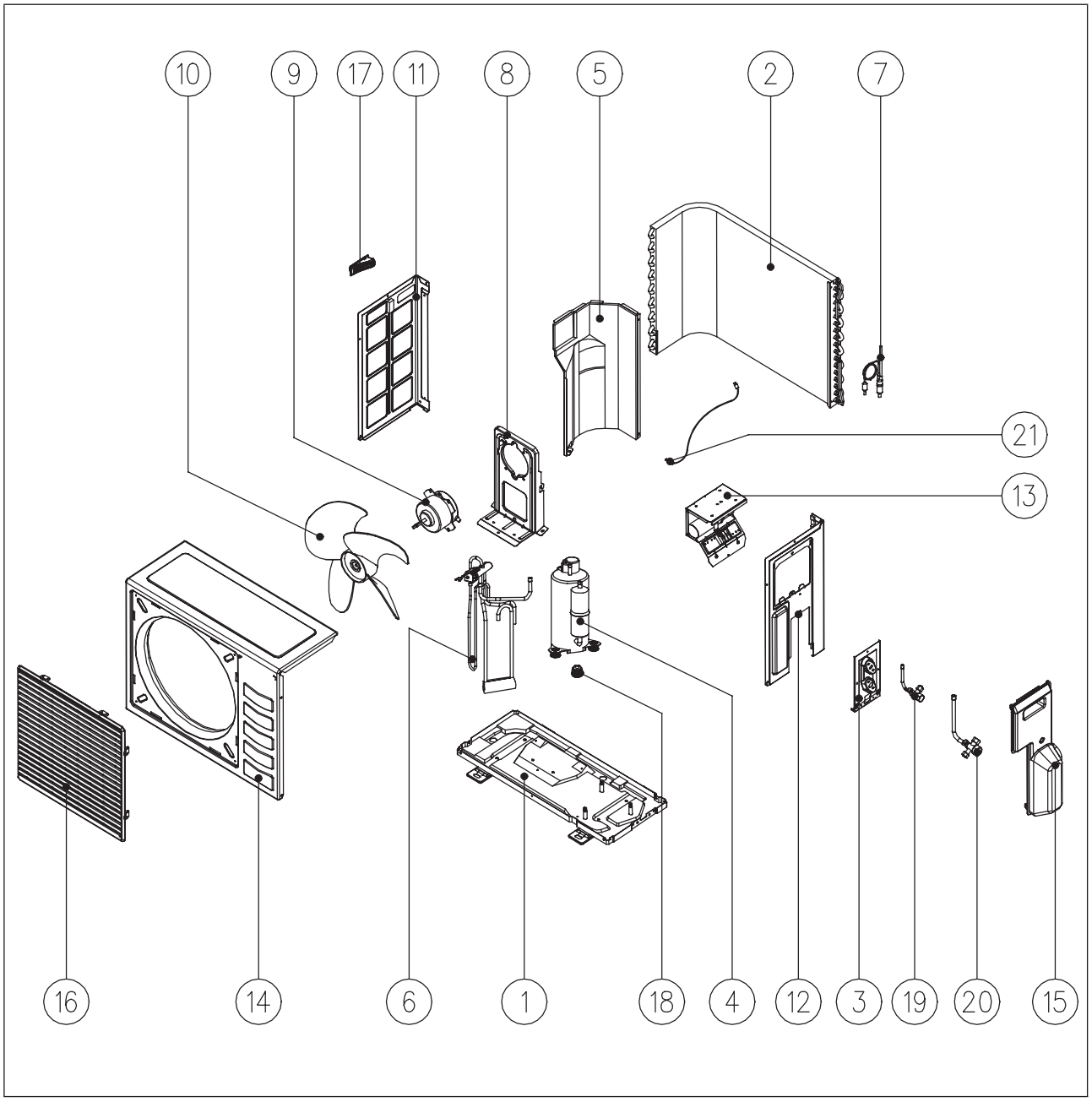
No	Description
1	Assy. Base Pan
2	Assy. Outdoor Coil
3	Valve Bracket
4	Compressor
5	Assy. Partition
6	Assy. Cap Tube
7	Bracket, Fan Motor
8	Fan Motor
9	Fan Blade
10	Left Panel
11	Right Panel
12	Assy. Front Panel

No	Description
13	Assy. Control Panel
14	Assy. Valve Cover
15	Assy. Front Grille
16	Plastic Handle
17	Rubber Grommet
18	Assy. Flare Valve 2 Ways 1/4”
19	Assy. Flare Valve 3 Ways 3/8”
	Assy. Flare Valve 3 Ways 1/2”
Parts Not in Diagram	
	Capacitor, Fan Motor
	Capacitor, Compressor

Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

OUTDOOR UNIT
MODEL: MLC09CR



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Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

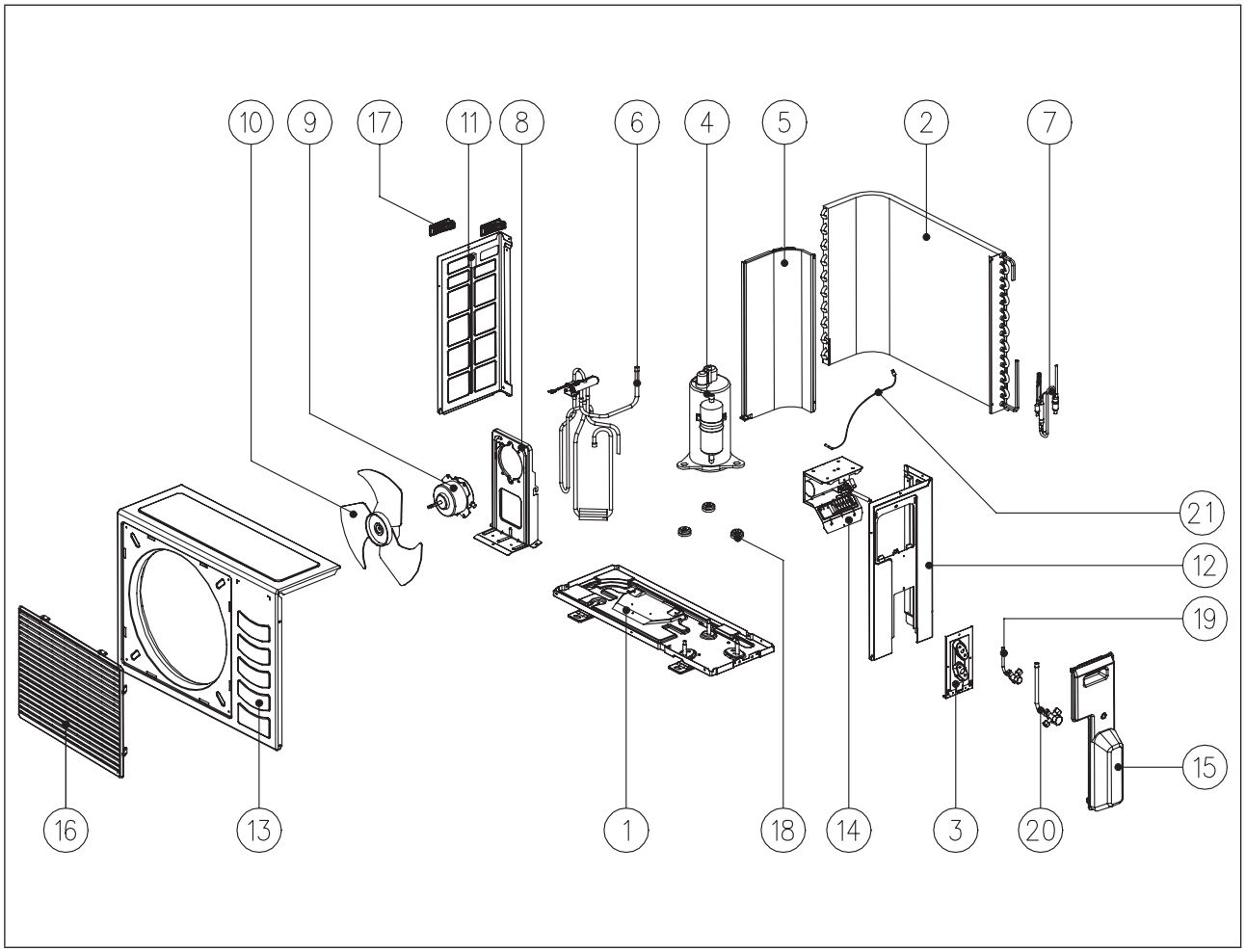
OUTDOOR UNIT
MODEL: MLC09CR

No	Description
1	Assy. Base Pan
2	Assy. Outdoor Coil
3	Valve Bracket
4	Compressor
5	Assy. Partition
6	Assy. 4 Way Valve
7	Assy. Cap Tube
8	Bracket, Fan Motor
9	Fan Motor
10	Fan Blade
11	Left Panel
12	Right Panel
13	Assy. Front Panel

No	Description
14	Assy. Control Panel
15	Assy. Valve Cover
16	Assy. Front Grille
17	Plastic Handle
18	Rubber Grommet
19	Assy. Flare Valve 2 Ways 1/4”
20	Assy. Flare Valve 3 Ways 3/8”
21	Sensor, Outdoor Defrost
Parts Not in Diagram	
22	Capacitor, Fan Motor
	Capacitor, Compressor

Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

OUTDOOR UNIT
MODEL: MLC15CR, M5LC10/15CR



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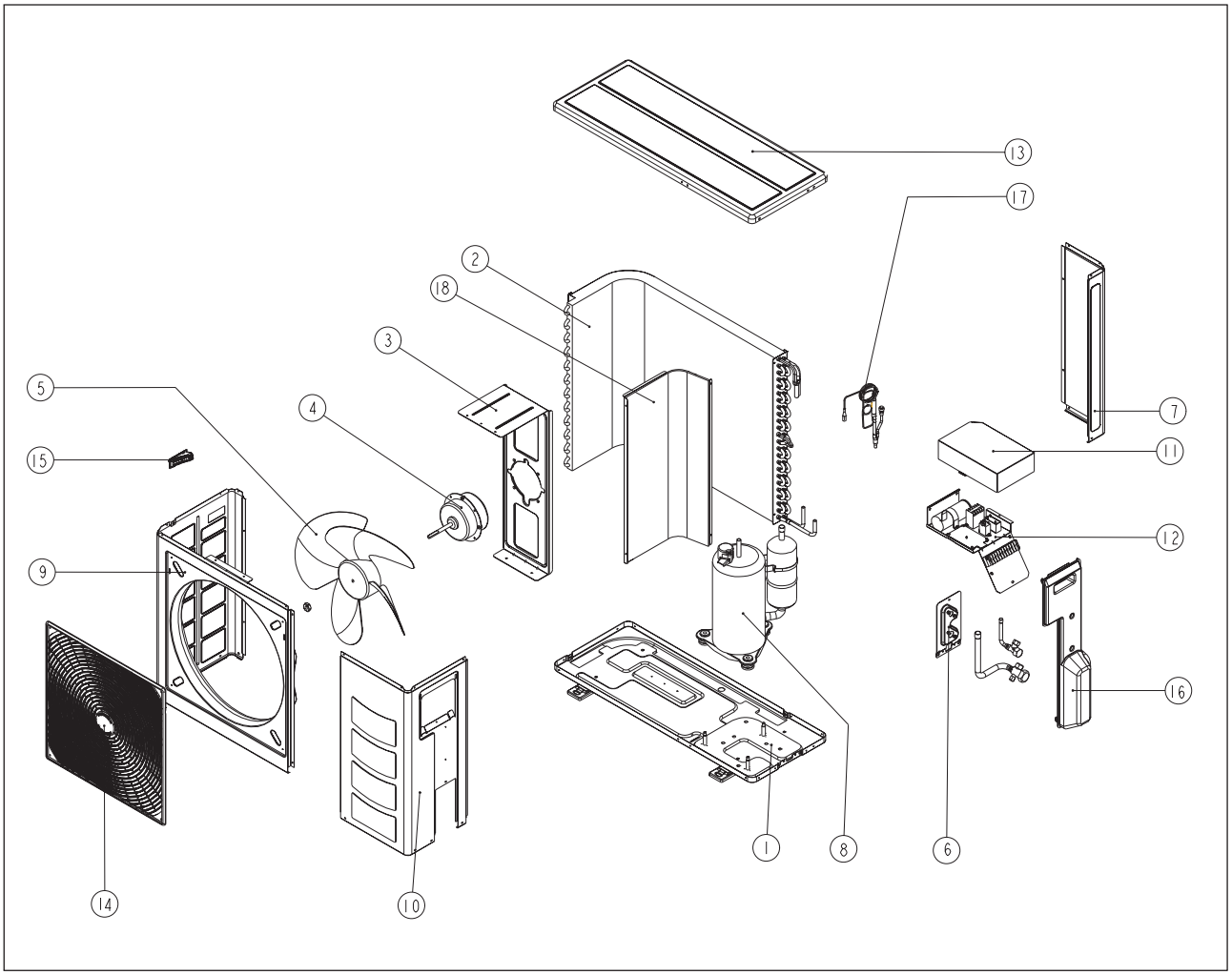
No	Description
1	Assy. Base Pan
2	Assy. Outdoor Coil
3	Valve Bracket
4	Compressor
5	Assy. Partition
6	Assy. 4 Way Valve
7	Assy. Cap Tube
8	Bracket, Fan Motor
9	Fan Motor
10	Fan Blade
11	Left Panel
12	Right Panel
13	Assy. Front Panel

No	Description
14	Assy. Control Panel
15	Assy. Valve Cover
16	Assy. Front Grille
17	Plastic Handle
18	Rubber Grommet
19	Assy. Flare Valve 2 Ways 1/4”
20	Assy. Flare Valve 3 Ways 3/8”
	Assy. Flare Valve 3 Ways 1/2”
21	Sensor, Outdoor Defrost
Parts Not in Diagram	
	Capacitor, Fan Motor
	Capacitor, Compressor

Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

OUTDOOR UNIT
MODEL: MLC020C/CR



Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

OUTDOOR UNIT
MODEL: MLC020C

No	Description
1	Assy. Base Pan
2	Assy. Outdoor Coil
3	Bracket, Fan Motor
4	Fan Motor
5	Fan Propeller
6	Assy. Valve Bracket
7	Back Panel, Right
8	Compressor
9	Front Panel, Left
10	Service Panel
11	Terminal Cover Panel
12	Assy. Control Panel

No	Description
13	Top Panel
14	Assy. Front Grille
15	Plastic Handle
16	Assy. Valve Cover
17	Assy. Cap Tube
18	Partition
Parts Not in Diagram	
	Capacitor, Fan Motor
	Capacitor, Compressor
	Assy. Flare Valve 3 Ways 5/8”
	Assy. Flare Valve 2 Ways 1/4”
	Felt, Compressor

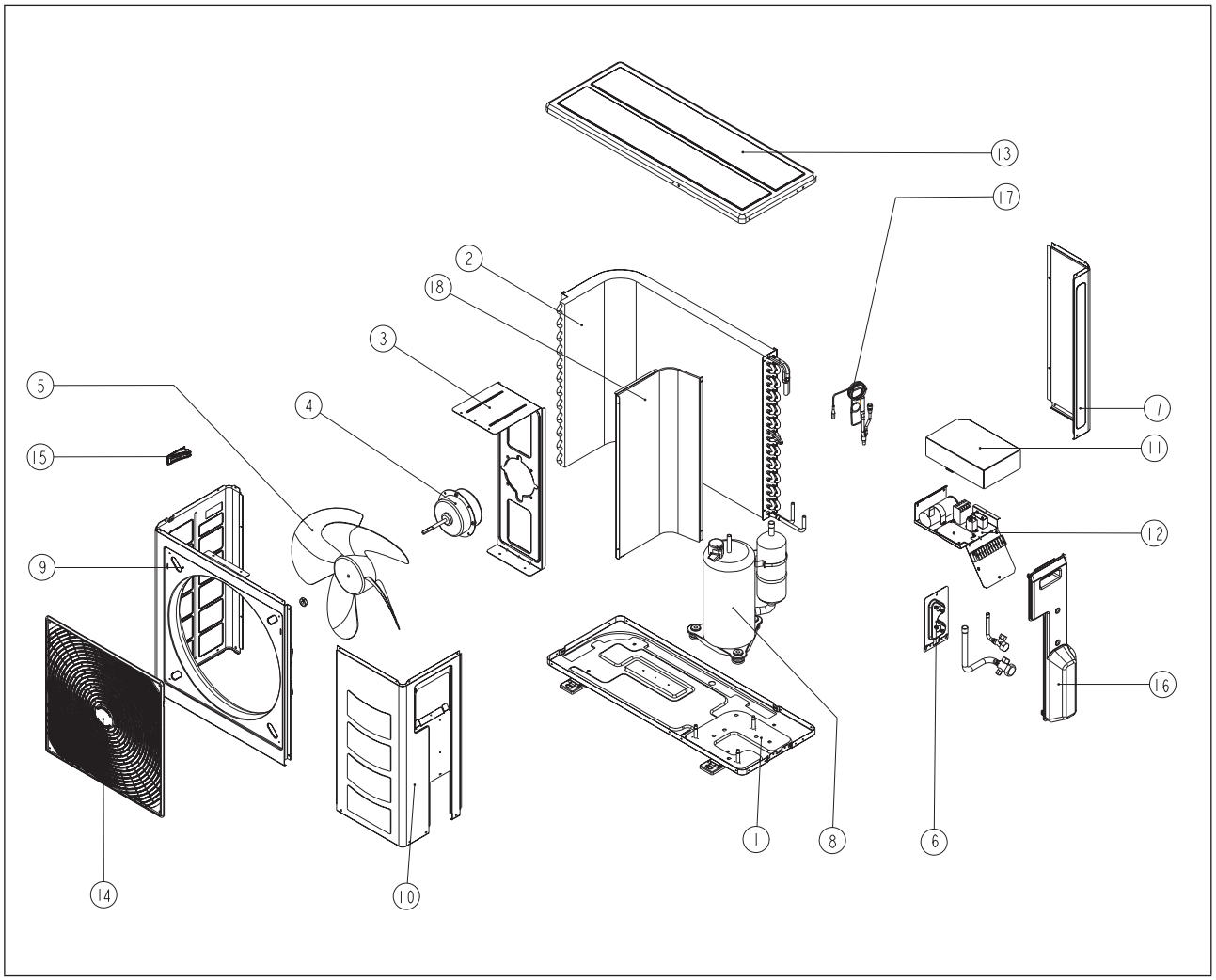
OUTDOOR UNIT
MODEL: MLC020CR

No	Description
1	Assy. Base Pan
2	Assy. Outdoor Coil
3	Bracket, Fan Motor
4	Fan Motor
5	Fan Propeller
6	Assy. Valve Bracket
7	Back Panel, Right
8	Compressor
9	Front Panel, Left
10	Service Panel
11	Terminal Cover Panel
12	Assy. Control Panel
13	Top Panel

No	Description
14	Assy. Front Grille
15	Plastic Handle
16	Assy. Valve Cover
17	Assy. Cap Tube
18	Partition
Parts Not in Diagram	
	Capacitor, Fan Motor
	Capacitor, Compressor
	Assy. Flare Valve 3 Ways 5/8”
	Assy. Flare Valve 2 Ways 1/4”
	Valve, Rev 4 Way
	Felt, Compressor

Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

OUTDOOR UNIT
MODEL: MLC025C/CR



Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

OUTDOOR UNIT
MODEL: MLC025C

No	Description
1	Assy. Base Pan
2	Assy. Outdoor Coil
3	Bracket, Fan Motor
4	Fan Motor
5	Fan Propeller
6	Assy. Valve Bracket
7	Back Panel, Right
8	Compressor
	Assy. Compressor
9	Front Panel, Left
10	Service Panel
11	Terminal Cover Panel
12	Assy. Control Panel

No	Description
13	Top Panel
14	Assy. Front Grille
15	Plastic Handle
16	Assy. Valve Cover
17	Assy. Cap Tube
18	Partition
Parts Not in Diagram	
	Capacitor, Fan Motor
	Capacitor, Compressor
	Assy. Flare Valve 3 Ways 5/8”
	Assy. Flare Valve 3 Ways 3/8”
	Felt, Compressor

OUTDOOR UNIT
MODEL: MLC025CR

No	Description
1	Assy. Base Pan
2	Assy. Outdoor Coil
3	Bracket, Fan Motor
4	Fan Motor
5	Fan Propeller
6	Assy. Valve Bracket
7	Back Panel, Right
8	Compressor
	Assy. Compressor
9	Front Panel, Left
10	Service Panel
11	Terminal Cover Panel
12	Assy. Control Panel

No	Description
13	Top Panel
14	Assy. Front Grille
15	Plastic Handle
16	Assy. Valve Cover
17	Assy. Cap Tube
18	Partition
Parts Not in Diagram	
	Capacitor,Fan Motor
	Capacitor, Compressor
	Assy. Flare Valve 3 Ways 5/8”
	Assy. Flare Valve 3 Ways 3/8”
	Valve, Rev 4 Way
	Felt, Compressor

Note: All exploded view and part list are subjected to change by the manufacturer without prior notice

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